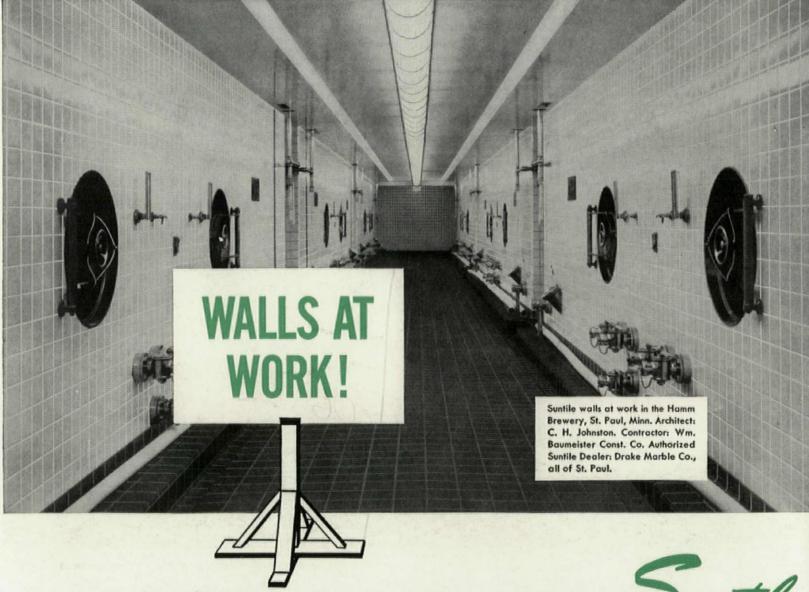
MINNEAPOLIS COLLEGE OF ART & DESIGN LIBRARY

ARCHITECTURAL FOOTUING

THE MAGAZINE OF BUILDING





It's easy-to-clean, hard-wearing, real clay Suntile

You won't actually see the sign-but where you see Suntile in an industrial interior, you'll know the walls (and floors) are hard at work.

Day-in, day-out, these tough, trouble-resistant surfaces keep busy cutting down plant overhead. Routine maintenance costs next to nothing-and long run expenses, refinishing, redecorating and repairs, cost even less! An occasional plain water washing is all the attention Suntile ever needs. This means real savings for your client.

Product processing gets valuable help from Suntile, too. That's because of Suntile's impervious surface. It washes clean, really clean. Dirt, grease, moisture, many acids or bacteria cannot penetrate Suntile's hard, fired-in finish. They stay on the surface where they can be thoroughly washed away.

And what a beautiful job Suntile does brightening up a working place! The colors stay lustrous and unfaded. Suntile's Color-Balance gives you practically unlimited color combinations to choose from, makes it easy to provide a cheerful, morale-building setting for any kind of production.

Put this versatile, real clay tile to work in the next interior you plan. Your Authorized Suntile Dealer can give you valuable help in this. He knows tile and he knows how to give you the finest installation. Every job carries his guarantee. See your classi-fied telephone directory for his name, or write us.

Ideal for: schools hospitals • stores public buildings industrial plants residences



NEW COLOR FOLDER AVAILABLE

Created under the direction of Faber Birren, leading color authority. 22 attractive wall colors, 27 beautiful shades of unglazed ceramic mosaic tile, 10 unique Suntile Camargo colors. All selected to give you a wide range of effective color treatments for walls and floors. Write today for your FREE copy, or see our Sweet's Catalog. Dept. AF-6, The Cambridge Tile Mfg. Co., Cincinnati 15, Ohio.

WAREHOUSES

470 Alabama Street San Francisco 10, California

The Cambridge Tile Mfg. Co. The Cambridge Tile Mfg. Co. 941 N. Citrus Avenue Los Arigeles 38, California





ARCHITECT: George A. Ebeling, Cleveland, Ohio

Decorative strip is K&M "Century" Asbestos-Cement Corrugated

SPECIFICATION: K&M "Century" APAC

This modern Mentor, Ohio, drive-in theatre is a sample of the smart, practical, and economial structures were can design by taking advan-

This versatile Aspessos-Cement Board is ideal for large, exposed surfaces—both interior and exterior. The initial cost is low; application is simple, therefore, quick and inexpensive; and K&M APAC resists not only weather, but also rot, rust, rodents, termites, and, of course, fire. And the original installation economies

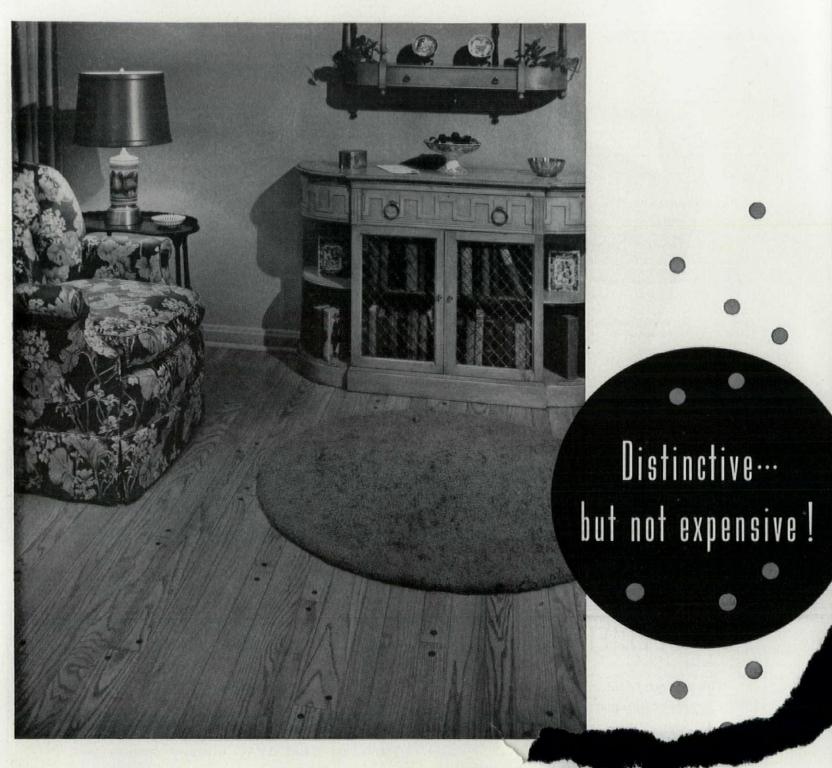
are carried a step further because K&M APAC does not need paint at any time to hold its attractive, durable finish.

You'll find K&M APAC wherever progressive design and construction are evident—in theatres, stores, residences, multi-family dwellings, and in all types of industrial structures. K&M APAC is also widely used as an inexpensive material for remodeling existing structures. It's one material that doesn't restrict the architect—functionally, artistically, or economically!

GET THE COMPLETE STORY . . . We'll be glad to send you specifications and application data without obligation. Write us.

KEASBEY & MATTISON COMPANY . AMBLER . PENNSYLVANIA

Original manufacturers of Asbestos-Cement Roofing Shingles in this country:



Bruce Ranch Plank Floor

IT'S PEGGED AND FINISHED AT THE FACTORY

■ Three features combine to give this hardwood floor a charming, distinctive appearance: First, the alternate 2¼" and 3¼" oak strips. Second, the interesting walnut pegs. Third, the mellow "Decorator Finish."

The beautiful over-all effect is very similar to that of an expensive random-width plank floor. But the new Ranch Plank Floor is moderate in cost because it's pegged and completely finished at the factory, and because it's installed like regular strip flooring. It has none of the installation problems or expansion hazards of wide oak planks.

Never has a new hardwood floor gained such immediate acceptance. Try it in one of your homes, and you'll find yourself using it at every opportunity. See our catalog in Sweet's. E. L. BRUCE CO., MEMPHIS 1, TENN.

MAIL FOR COLOR BOOKLET



City

E. L. Bruce Co. Memphis, Tenn.

Send us booklet and all data on Bruce Ranch Plank Floor.

State

216

MAGAZINE OF BUILDING

Published by TIME Incorporated

Architectural FORUM

EDITOR AND PUBLISHER
P. I. Prentice

EXECUTIVE EDITOR Joseph C. Hazen, Jr.

ARCHITECTURAL EDITOR Douglas Haskell

ART DIRECTOR

ASSOCIATES: Eleanor Bittermann (Research), Louise Cooper, Wilson Dizard, Sighle Kennedy, Walter M Quide, Harry J. Middleton, Amnon Rubinstein, Richard Saunders (Washington), Madelaine Thatcher.

ASSISTANTS: Rosalind Klein Berlin, Linn Ericson, Marilyn Grayboff, Mary Jane Lightbown, Alice O'Connor, Nina Rabinowitz, Chloethiel Woodard Smith (South America).

CONSULTANTS: Miles L. Colean, Ruth Goodhue.
GENERAL MANAGER: Robert W. Chasteney, Jr.
MARKET RESEARCH DIRECTOR: Arthur S. Goldman.
CIRCULATION MANAGER: Walter F. Grueninger.
PRODUCTION MANAGER: Lawrence W. Mester.

ADVERTISING DIRECTOR GEORGE P. SHUTT

The Architectural FORUM is published monthly by TIME Inc., 350 Fifth Ave., N. Y. 1, N. Y. Address subscriptions to 540 North Michigan Avenue, Chicago 11, Ill. Address all editorial correspondence to 350 Fifth Ave., N. Y. 1, N. Y. Yearly subscription payable in advance. To individuals or firms (and their employes) engaged in Building—design, construction, finance, realty; material distribution, production or manufacture; government agencies and supervisory employes; commercial and industrial organizations with a building program and their executives; teachers and students of Architecture and Engineering; professional clubs, societies and trade vertisers and publishers: USA, Possessions and Canada, \$5.50; Pan American Union and the Philippines, \$9.00; Overseas countries, \$12.00. To those not connected with the Building Industry; USA, \$11.00. Foreign, \$17.50. Single copies, if available. \$2. All copies mailed flat. Cryvright under International Copyright Convention. All rights reserved under the Pan American Copyright Convention. Entered as Second Class Matter July 17, 1944 at the Post Office at New York, N. Y., under the act of March 3, 1879. Copyright 1950 by TIME Inc.

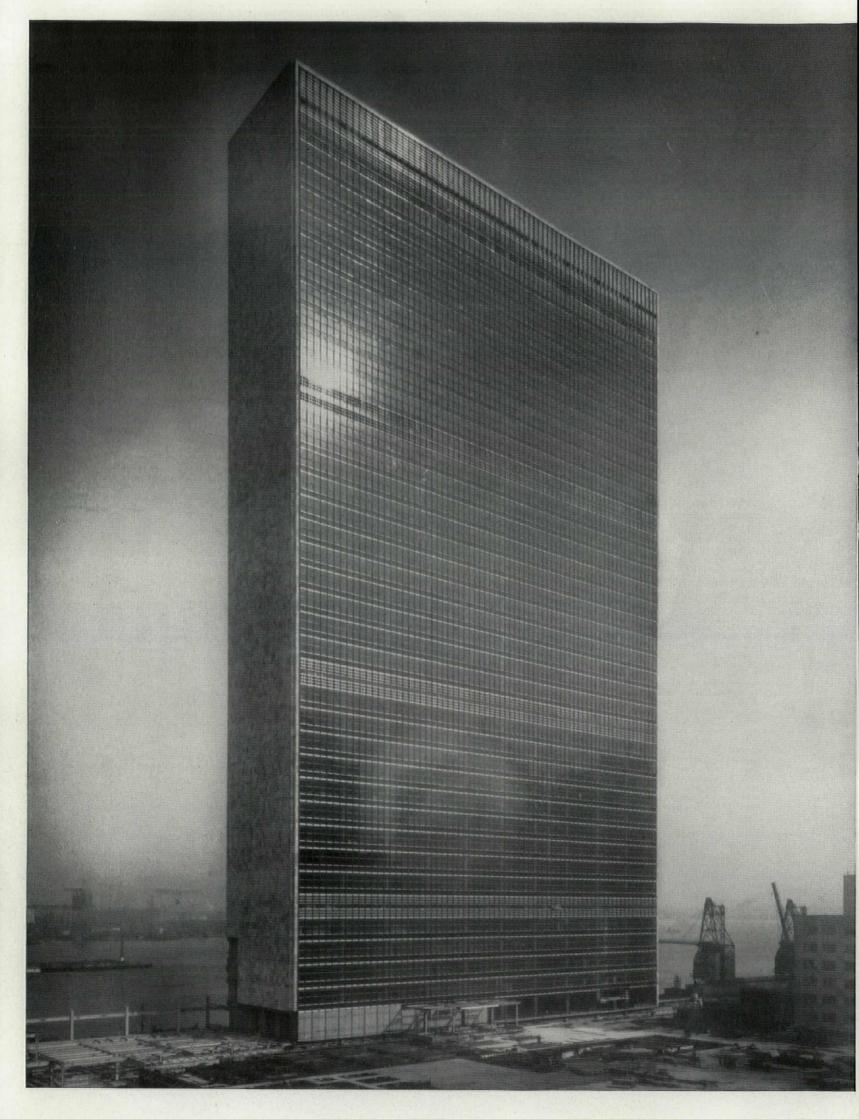
TIME INC. also publishes TIME, LIFE and FORTUNE. Chairman, Maurice T. Moore; President, Roy E. Larsen; Executive Vice President and Treasurer, Charles L. Stillman; Executive Vice President for Publishing, Howard Black; Vice Presidents, Allen Grover, Andrew Heiskell, C. D. Jackson, J. A. Linen, P. I. Prentice; Vice President and Secretary, D. W. Brumbaugh; Comptroller and Assistant Secretary, A. W. Carlson; Circulation Director, F. DeW. Pratt; Producer, The MARCH OF TIME, Richard de Rochemont.

VOLUME 92, NUMBER 6

NEWS	9
AIA CONVENTION REPORT	14
LETTERS	20
REPORT FROM MOROCCO	64
BEHIND THE BLUEPRINTS	76
FOREWORD	83
OFFICE BUILDING	84
A preview of Lever Bros.' miniature Manhattan skyscraper by Architects Skidmore, Owings & Merrill—a narrow shaft of glass atop an open-air ground floor and a garden mezzanine.	
HOTELS	90
A study of planning methods which the nation's most experienced hotel architects, Holabird & Root & Burgee, are using to develop the U.S. type of efficient commercial hotel for adaptation in all parts of the world—notably for Intercontinental Hotels Corp. in Columbia and Venezuela.	
SCHOOL AND CHAPEL	102
The St. Rose of Lima parochial school in Houston, Tex., by Architect Donald Barthelme is a demonstration in good scale, careful detailing, complete sun control and an intelligent use of glass and brick.	A
MEDICAL LABORATORY	106
Based on a most exacting set of requirements and an exacting building budget, Philadelphia's Institute of Cancer Research by Architect Vincent Kling is an outstanding accomplishment in the fast-growing field of medical research design.	
HOUSES	112
Six Moon Hill, in tradition-steeped Lexington, Mass., is the scene of a successful experiment by The Architects Collaborative in modern house design, in new construction ideas and in a cooperative form of subdivision. A portfolio of seven of the most interesting houses in this forward-looking development plus a bigger house in Belmont, Mass., by the same architects.	
MERCHANT HOUSE BUILDING	
Designer-Builder E. A. Ballin of Long Island sells 50 big houses at \$30,000 each with the aid of a new "air conditioning" system, electronic dust filters and a host of other customer-pleasing	
features.	128
Small two-bedroom houses of handsome design are combined with an unusually good site plan by Architect Charles M. Good- man for Hammond Homes, Inc., near Wheaton, Md.	130
Builders Boyar and Taper of Los Angeles build 100 houses a day in the \$7,800-\$9,600 price bracket, set a production record with	130
the help of careful scheduling, labor specialization and mech- anized materials handling.	132
NEW CONSTRUCTION SYSTEM	142
On the new campus for Trinity College in Texas all the floors for three-story buildings are poured on the ground and Jacked into position to reduce total construction costs 9 per cent to \$6.40 per sq. ft.	
NEW AIR CONDITIONING SYSTEM Low velocity air is distributed throughout the room by means of a thermostatically controlled nozzle—a simple system which costs less than \$2.75 per sq. ft.	141
REVIEWS	148
PRODUCT NEWS	182

Cover: Lever Building, photo of model, Esra Stoller

TECHNICAL LITERATURE



22 YEARS AND MILLIONS OF WINDOWS LATER

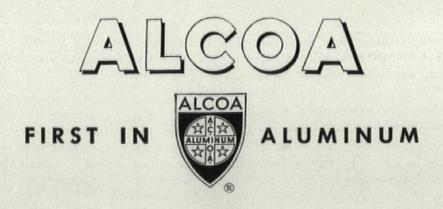
Twenty-two years ago the aluminum window was an Alcoa experimental project. Today the first aluminum windows made are still in use, functioning perfectly. And millions more have proved their value in actual service.

Now, world renowned architects have specified aluminum framing for the great glass walls of the United Nations Secretariat. Like the first aluminum windows in America, these largest windows in the world are framed in Alcoa Aluminum.

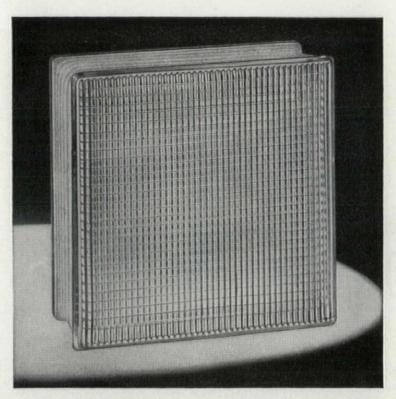
Because of their proved economy and efficiency—because aluminum lasts—windows of Alcoa Aluminum are being specified for more and more outstanding commercial, industrial, and residential projects.

Alcoa engineers have had a part in every pioneering use of aluminum in the building field, in the design of every major aluminum-clad building erected in America. Their services and experience are available to all architects and builders.

For information on any application of aluminum, call your nearby Alcoa Sales Office or write Aluminum Company of America, 1887F Gulf Building, Pittsburgh 19, Pennsylvania.



United Nations Secretariat. All window framing of Alcoa Aluminum fabricated by General Bronze Corp. Architects: United Nations Board of Design, Wallace K. Harrison, Director of Planning, Max Abramovitz, Deputy Director of Planning. General Contractors: Fuller-Turner-Walsh-Slattery, Inc.



"Light Direction with Azimuth Correction"

ANNOUNCING A NEW PRINCIPLE IN LIGHT CONTROL

with Insulux Glass Block Number 363

Since 1941, Owens-Illinois has maintained a laboratory at the University of Michigan for the purpose of studying daylight transmission through glass block.

Out of this laboratory has come a completely new type of light-directing glass block—Insulux Number 363.

This new block is not only daylight-directing but is also "azimuth-correcting" . . .

For light control it provides: more uniform transmission of daylight, increased diffusion, and lower brightness.

These additional advantages, we believe, are of particular importance to architects and others interested in illuminating elementary school classrooms, as well as other areas where daylight is used for critical seeing . . . Mail the convenient coupon below for full information.

INSULUX DIVISION

American Structural Products Company Dept. G-105, P.O. Box 1035 Toledo 1, Ohio

Please send me more information on the new daylight-directing Insulux Glass Block Number 363.

Name____

Add

City____County___State____



NEW U.S. RADIANT BASEBOARD

Unmatched for beauty, quality and performance

We're certain that, as an architect, you'll be vitally interested in these two important facts concerning radiant baseboard:

- 1 Tests by a leading university prove radiant baseboard heating provides the most even floor-toceiling temperatures ever achieved.
- Comparison tests by an independent firm of consulting engineers prove U.S. Radiant Baseboard is one of the lowest-cost forms of radiant heat.

When you want heating that is the ultimate in appearance, comfort and space-saving efficiency for your clients, choose U.S. Radiant Baseboard.

U.S. Radiant Baseboard is new and different. It is constructed entirely of steel for light weight and durability, and is easy to handle, store, assemble and install.

U.S. Radiant Baseboard rests on finished flooring, has the appearance of a regular wooden baseboard, and is easily painted to harmonize with modern interiors. It does not take valuable floor or wall space or interfere in any way with placement of furniture or draperies.

With U.S. Radiant Baseboard, cold spots, drafty corners and chilly window areas are completely eliminated. The entire room, from floor to ceiling, is blanketed with warm, even, sun-like radiant heat.

No change of any kind is required in building construction for new homes. No costly structural alterations are needed for commercial buildings or old homes.



For data on U.S. Radiant Baseboard or on U.S. Radiator products-consult the nearest U.S. Radiator Branch Office . . . conveniently located in all principal cities.

Write NOW for this FREE 32-page book which shows how to specify and calculate U.S. Radiant Baseboard, plus a wealth of technical data on the principles and advantages of radiant heat.

EVERYTHING FOR HEATING: Automatic Boiler-Burner Units • Warm Air Furnaces Convectors . Radiators . Radiant Baseboard . Controls . Heating Accessories . Water Heaters

Oil Burners • Gas Burners

United States Radiator Corporation

General Offices: Detroit 31, Michigan

Branches and Sales Offices in Principal Cities



Plants at: GENEVA, N.Y. . DUNKIRK, N.Y. . EDWARDSVILLE, ILL. . DETROIT, MICH. . WEST NEWTON, PA. . WAUKEGAN, ILL. . BRISTOL, PA.

Take It from These successful Builders!

Here is another representative group of prominent builders, all of whom choose Kelvinator products for their projects. Each builder bases his choice of Kelvinator on long years of experience. And each builder finds unfailing satisfaction in Kelvinator beauty of design . . . dependability . . . popularity with users . . . and low maintenance costs over the years. For full information, write to Dept. AF, Kelvinator, Division of Nash-Kelvinator Corporation, Detroit 32, Michigan.

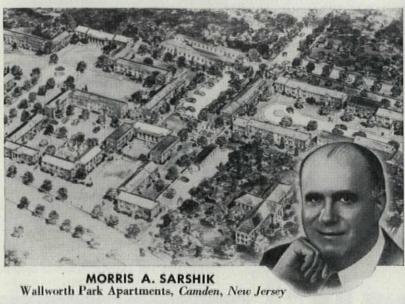




ERCOLE TAMBURELLI Garden Apartment Project, Riveredge, New Jersey



GLEN L. GROOM Castlemont Gardens, Oakland, California



DIVISION OF NASH-KELVINATOR, CORPORATION, DETROIT 32, MICHIGAN



Kelvinator featured exclusively, nation-wide, in the "Good American Home" Program.

WARD PRICE TREND will continue, but only gradually, over the next few months; materials production is beginning overtake the lag between supply and demand

ack in the middle of its busiest year in history, the building industry last month to face up to a most unpleasant fact: housing production had begun again to outrun production of a number of crucial building materials. Biting shortages of framing aber, oak flooring, gypsum products, wallboard, and plumbing supplies, just beging to be felt a month ago (FORUM, May '50), were now bitter realities. Of all terials in short supply, lumber continued to be the one most seriously affected. It the first quarter of the year, new orders were 5 per cent more than shipments and per cent more than production.

So far, the resulting up trend in prices had not been checked. On BLS' index of olesale building materials prices (see Table A), April stood at its highest monthly erage since April 1949; May would probably be two points higher. Most other lexes told a similar story. According to the 20-city average compiled from E. H. eckh & Associates indexes, with 1939 equaling 100, January 1949 stood at 206.7, bruary at 208.8, March at 210.4, and April at 211.3.

iral elements gather. The pattern of an upward spiral had been set; all the elements re there—even panic. The report leapt from city to city that the industry was cing (or, indeed, was in the midst of) a gray market for materials. During the onth the phrase appeared in just about every metropolitan newspaper in the country acluding even the cautious and usually imperturbable New York Times.) The dustry's grave question now was whether it would itself give the spiral a spin or main calm and exert whatever influence it could to hold it under control. There re plenty of indications that it wanted to do just that. A group of eastern builders d mortgage bankers toyed with the idea of persuading the industry to undertake voluntary curtailment of activity. H. R. Northup, executive vice-president of the ational Retail Lumber Dealers Association, assured builders "there would be no ay market in building materials if buyers will follow a steadfast policy of obtaining eir requirements from established trade sources and refusing to deal with those who empt to profit from temporary local shortages." Northup asked them to be patient nile manufacturers step up their production to meet the swollen demand: "It takes ne to get the added production out through distribution channels to the yards of e nation's 27,000 retail materials dealers."

The figures bore him out. Materials production was responding to demand in an couraging way. Even lumber production showed the first signs of catching its breath. the week ending May 13, lumber production for the first time since September as slightly ahead of shipments. On a seasonally adjusted basis, the production index r materials as a whole was higher than during the months of peak demand in 1949. Changes since January are shown in Table B.)

radual increases ahead. What, then, could the industry look forward to, if it remained alm and avoided such aggravations as excessive advance buying? It could not be romised a sudden drop in prices, that was true. As a matter of fact, building costs ould continue to increase gradually, during the next three or four months at least. ut, barring the possibility of a serious lumber strike, or a further easing of mortgage edit, the experts foresee no sensational rise such as occurred during the years 1945-248. Nevertheless, the change is likely to be sufficient to be felt by the buying public ome decline in house buying demand may be felt by fall, and the prospect for 1951, sof mid-1950, seems somewhat less rosy than this year's record activity. But again a drastic reduction seems likely.

There is one real danger in the situation, but it is one beyond the pale of the dustry's influence. The Administration might attempt to lay the blame for the rice bulge on the builders, suppliers and maufacturers, and use the occasion for a argument for increased government intervention. Since public housing will still e in the getting-started stage, it is not likely that the drive will be for more of but rather for help for the "middle income group" which the price increases will ave "priced out of the market." Since there is little left that can be done to be be be alize FHA or VA financing, the drive is likely to take the direction of direct overnment lending, in one form or another, to cooperatives and individuals.

TABLE.A

Wholesale Prices of Building Materials, 1950

	January	February	March	April
ALL BUILDING				
MATERIALS	191.6	192.8	194.2	194.8
Brick and tile	163.5	163.2	163.3	163.4
Cement	134.8	134.9	134.9	134.9
Lumber	287.5	292.1	295,9	299.4
Paint	139.0	139.0	138.2	136.7
Plumbing and heat-				
ing	151.7	148.7	151.9	154.8
Structural steel	191.6	191.6	191.6	191.6
Other building ma-				
terials	170.5	171.1	172.2	172.0

Source: U. S. Department of Labor, Bureau of Labor Statistics, May 23, 1950.

TABLE B

Building Materials Production, 1950

January	February	March
120.8	117.2	140.0
		148.1
99.7	1.000	129.0
145.9	140.5	166.5
95.9	87.7	101.0
148.9	128.3	139.8
126.9	125.8	137.1
112.3	107.2	127.3
115.3	95.6	110.2
53.4	59.1	60.1
142.1	145.9	160.5
15.7	7.9	8.2
56.8	73.6	72.0
171.3	150.6	181.0
210.6	213.1	282.4
697.8	677.4	738.7
212.1	205.8	225.9
124.4	114.4	134.1
133.7	114.1	136.4
122.4	143.8	182.4
. 109.5	102.4	113.5
121.1	117.1	135.9
	120.8 141.5 99.7 145.9 95.9 148.9 126.9 112.3 115.3 53.4 142.1 15.7 56.8 171.3 210.6 697.8 212.1 124.4 133.7 122.4 109.5	120.8 117.2 141.5 142.1 99.7 102.8 145.9 140.5 95.9 87.7 148.9 128.3 126.9 125.8 112.3 107.2 115.3 95.6 53.4 59.1 142.1 145.9 15.7 7.9 56.8 73.6 171.3 150.6 210.6 213.1 697.8 677.4 212.1 205.8 124.4 114.4 133.7 114.1 122.4 143.8 109.5 102.4

¹ Shipments.

Source: Data obtained in May 1950 from the Construction Division, Office of Domestic Commerce, U. S. Department of Commerce.

² Sales of classes 1, 2 and 3 only.

MONEY

VA MORTGAGE BOOM at the expense of FHA business indicated in FORUM poll of leading lenders. Builders and buyers welcome the new substitute for the combination loan

Last year when FHA mortgage interest rates were pegged at $4\frac{1}{2}$ per cent, the 4 per cent straight VA mortgage (under Section 501) looked like a black sheep to mortgage lenders. Those institutions which made or bought VA 501's did so only because they knew that the black sheep could be dumped at will into the fold of Federal National Mortgage Association. (By the end of the year the Government, through Fanny May, was stuck with \$406 million of these unpopular mortgages, and Fanny May was so broke she had to ask Congress for another \$750 million.)

Last year the straight VA mortgage was also a black sheep in the eyes of builders and buyers. With its government guarantee limited to \$4,000 or 40 per cent of a house's value, the mortgage was relatively risky and therefore commanded a sizable premium.

Today, however, the 4 per cent VA mortgage is looked upon by everyone as a sheep of a different color.

Lenders have been reconsidering the merits of straight VA loans ever since 1) the new housing law boosted the VA guarantee to \$7,500 or 60 per cent of a house's value and 2) FHA cut its interest rate to 4½ per cent, thus narrowing the disparity between the earning capacity of the two mortgages to only ½ per cent. (This small

difference in favor of the FHA mortgage is insufficient to cover the typical foreclosure costs and is more than offset by the fact that VA—unlike FHA—reimburses mortgagees for their foreclosure costs.)

Builders and buyers have recently felt more kindly toward the straight VA loan ever since it was announced that the popular VA-FHA combination loan is soon to be wiped off the books. (With the guarantee on straight VA loans extended to \$7,500 or 60 per cent, and with VA guaranteeing the top portion of the loan (unlike FHA which insures the bottom), the straight VA loan will make possible the same 100 per cent financing and no-down-payment purchase which were the features of the combination loan.)

The builders' and buyers' new interest in VA loans is reflected in the tremendous rush of business in the VA office, which is staffed to handle only last year's volume of 20,000 loans a month, but is now swamped under 50,000 monthly applications.

Fortunately, the new attractiveness of VA loans to mortgage lenders will probably make the money available to meet this sudden switch to VA—despite the recent tightening of Fanny May's purse strings (see Washington, p. 13). To document this expectation, FORUM last month polled 18 large mortgage investment life insurance com-

panies and found them keeping step with the builders' switch. As shown in the tabular summary of the poll (below), these big lenders will do many times more VA business in 1950 than they did last year, while their FHA business will increase only moderately by comparison.

NEW FHA BUILDER LOANS permit house building without investment—like 608

One of the new wrinkles in the FHA program is a bonanza whose significance has apparently escaped publicity and the industry's attention: Under Section 203 builders can get a 30-year FHA-insured loan on a "firm-commitment" covering 85 per cent of the cost of a two-bedroom house valued at up to \$7,000 (\$8,000 in high-cost areas). For three bedroom houses the limits are \$8,000 and \$9,000. Since for most builders the remaining 15 per cent of cost is profit, this FHA provision permits the construction of small houses without any cash investment on the part of the builders, in much the same way the now-defunct "608" law permitted apartment construction without equity investment. Previously builders' loans were limited to 80 per cent of the first \$7,000 and 60 per cent of the balance.

SAVINGS AND LOANS lead all lenders in increased mortgage business

Mortgage lending during March was 22 per cent higher than February, and 36 per cent ahead of March 1949; 1950's first quarter was 31.5 per cent ahead of the first quarter last year.

Savings & Loan associations led the supervised institutional lenders with a first quarter to first quarter increase of 43.3 per cent, a gain attributable more to a strong net inflow in savings into these institutions (10.6 per cent above the first quarter of last year) than to use of FNMA facilities. Recordings by insurance companies were up 30.2 per cent on the first quarter to first quarter comparison; commercial banks were up 25.2 per cent, and mutual savings banks were ahead 23.4 per cent. Individuals were lending 10.4 per cent more than last year. The most spectacular gains were made by mortgage companies, who shot up 58.3 per cent.

Of the total volume of mortgage activity (\$3,248,734,000) during the first quarter of 1950 (1949's first quarter: \$2,469,761,000), Savings & Loan associations also took the biggest share: 31 per cent, as against 29 per cent last year.

Mortgage activity of leading insurance companies

	1949		1950 (estir	nated)
	VA 501	FHA 203 (millions of	VA 501 f dollars)	FHA 203
Bankers Life Co., Des Moines	0.5	14.8	14.0	25.0
Aetna Life Ins. Co	5.0	18.0	5.0	18.0
Pacific Mutual Life Ins. Co	0.4	9.41	negligible	7.0
Nat'l Life & Accident Ins. Co., Nashville	0.053	8.2	.0902	2.62
Northwestern Mutual Life Ins. Co., Milwaukee	1.33	38.34		VA propor-
THE MICHAEL MANAGEMENT AND THE CONTRACT OF THE	1.5	30.3-	tion over	The state of the s
Provident Mutual Life Ins. Co., Philadelphia	none	6.9	1.5	6.9
Prudential Ins. Co., Newark	30.05	284.0		inestimable.
		20110		vill be greater
John Hancock Mutual Life Ins. Co., Boston	0.027	3.4	30.0	10.0
Fidelity Mutual Life Ins. Co., Philadelphia	0.170	8.7	8.0	5.0
Phoenix Mutual Life Ins. Co., Hartford	0.750	7.2	5-7.5	5-7.5
Connecticut General Life Ins. Co., Hartford	0,100	5.0	2.0	5.0
Pennsylvania Mutual Life Ins. Co., Philadelphia	0.250	12.5	5.0	15.0
Investors Diversified Services	26.0	49.0	80.0	40.0
State Mutual Life Assur. Co., Worcester	none	15.0	5.0	10.0
New York Life Ins. Co	4.8	22.6	100.0	55.0
Three other institutions, who asked not to be)	0.524	22.9	Renewed emphasis on 501	
quoted, gave the following breakdowns:	1.5	44.0		ount to two- the 203 total
	1.06	15.01	501 and 203 total 10.0	together will

¹ Entire Title II program, ² first quarter, ³ 2.2 million in Sec. 505, ⁴ 203 and 603 together, ⁵ 28.0 million in Sec. 505, ⁶ VA total, ⁷ FHA total.

PEOPLE

Elections and appointments:

Dr. Frederick L. Hovde, Purdue University president since 1946, to chairmanship of the Building Research Advisory Board. . . .







Kaiden-Kasanjian Architect Harold L. Sleeper, vice president of the New York Building Congress, to presidency of the Architectural League of New York. . . . O. W. Boswell, president of the First Federal Savings & Loan Assn., Paris, Tex., to the presidency of the National Savings & Loan League (at the League's annual convention in Chicago).... Milton T. Mac-Donald, vice president of The Trust Company of New Jersey, Jersey City, to the next presidency of the Mortgage Bankers Assn. of Amer-(MacDonald's ica. nomination last month by the Association's nominating committee is tantamount to election at MBA's convention in Detroit next fall.). . . . San Fran-

cisco Architect Ernest J. Kump to life membership as a fellow of the Royal Society of Arts of England. . . . Roland M. Sawyer, Pittsburgh, Pa., to FHA's newlycreated position of Administrative Officer for Minority Group Housing. (FHA describes the position as one which maintains "contacts with financial institutions, builders, architects and others for the purpose of devising practical measures for the development of housing open to minority groups by means of the various FHA mortgage insurance programs.")

The 1950 LeBrun Traveling Scholarship of the New York Chapter of the AIA was awarded to Ralph E. Myers, partner in the

Kansas City, Mo., firm of Kivett & Myers.

MARKET

AMATEUR BUILDERS attract interest and scorn from industry men

This year's non-fiction best-seller, cook books and canasta manuals notwithstanding, is easily William H. Wise & Co.'s

Your Dream Home-How to Build it for Less Than \$3,500, a professional sounding handbook which offers readers a range of at least seven architectural types, from Tudor Cottage to "Modern Suburban," including, of course, the ubiquitous Cape Cod, all for \$3.95. One source puts sales at 900,000, another more conservatively at 600,000. (Last year's non-fiction leader, Cheaper by the Dozen, was a success with a more modest 498,000 sales.)

If the publisher knows how many of the book's buyers are actually trying their hand at house construction, he isn't telling. But Author Hubbard Cobb is not so reluctant; he maintains that 90,000 U.S. families have literally built their own homes since the war, and that twice that number will do so this year.

Different attentions. Whatever the number, it is apparently substantial enough to get the attention of different segments of the housebuilding industry-and for different reasons. Materials dealers, sensing a new market, hopped right in. One 16-unit chain of New England lumber yards, came up with a complete package for the homebuyer, including all materials, equipment and fixtures above the foundations, delivered for \$3,750 to \$5,700, depending on house size-with a \$38 down payment to cover the cost of title search. Another distributor - the Easi-Bild Pattern Co., in Pleasantville, N. Y., supplies not materials but a \$5 kit, complete with patterns (similar to those a woman uses to sew a dress), directions and full-sized templates.

The attention given the amateur builders by the nation's merchant builders has been of a different nature. Thomas Coogan, president of the National Association of Home Builders, maintains that scores of builders have been called in to finish, or rescue, ill-advised and unsuccessful homemade numbers. Says Coogan: "For 99 per cent of the people, trying to build their own home makes as much sense as trying to build their own car."

Lenders agree. Lenders seem to agree. A mortgage loan officer of one large eastern bank (Dime Savings Bank of Brooklyn) says: "We insist that operative builders whose loans we handle must have experience and an architect's help so you know how we feel when some of these people come in to us with plans sketched on the back of a brown paper bag, as some have." The view of amateur builders taken by a representative of the County Trust Co. of Tarrytown was just as sour: "Ninety per cent of the time they bring us and the owner-artisan nothing but grief."

DESIGN

BUILDER-ARCHITECT meeting fizzles; another set for July

The first meeting between the American Institute of Architects and the National Association of Home Builders, which was to start the ball rolling on an investigation of how small builders' houses can be built with architectural help, was scheduled for the last day of the AIA convention in Washington last month (see p. 14). It didn't come off. The Home Builders committee, appointed by NAHB President Thomas Coogan, showed up; but AIA President Ralph Walker rushed in to explain that he hadn't had time to get his committee appointed.

The builders were a little touchy about it, at first. Said Alan Brockbank, NAHB second vice president: "The trouble with the big established architect is that he doesn't want to fool around with this little stuff." But the architects assured them that they were as eager to get started as the builders. Said AIA Executive Director Ed Purves: "It's a very important and serious question, one that demands a great deal of study. It is a field in which very few architects have had experience."

The two groups agreed to schedule another meeting for July. NAHB's first request will be for AIA to agree on a system of nation-wide architectural fee schedules. Said Brockbank: "We're going to see that if better architecture doesn't come out of this thing, it isn't the home builders' fault."

ECONOMY

MANUFACTURER'S EARNINGS show steady improvement over last year

The net profits of 11 of the largest material and equipment manufacturers for the first quarter of 1950, listed below, reflect the overall rosy glow of the country's economy, showing a steady improvement over the similar period for 1949.

Company 1950	1949
American Radiator-Standard	
Sanitary Corp\$4,700,000	\$3,742,000
Celotex Corp.* 250,689	455,631
Flintkote Co.** 961,929	725,871
General Electric Co36,858,391	26,702,978
Johns-Manville Corp 3,928,551	2,883,431
Libbey-Owens-Ford Glass	
Co 7,209,868	3,895,761
National Gypsum Co 2,052,686	1,514,329
Owens-Illinois Glass Co.† 17,894,909	11,958,763
Pittsburgh Plate Glass Co.*** 7,955,705	7,813,756
U. S. Gypsum Corp 6,669,188	5,311,542
U. S. Steel***49,217,742	49,928,670

^{* 3} months, to Jan. 31. ** 12 weeks, to Mar. 25. † 12 months, to Mar. 31. *** Net Income.

WASHINGTON

LOBBYING PROBE uncovers some indiscretion, no law violation

As a big game hunt, the House probe of lobbying activities has so far proved disappointing. The building industry, which was the first trade group to be called on the Investigating Committee's carpet, stood vindicated. No evidence was uncovered that it had violated the lobby registration act in taking its case before Congress or had employed any other illegal tactics in its promotional work.

All that the Committee had been able to flush out by the end of last month were a few startled rabbits in the form of indiscreet letters pulled from the files of some of the trade associations. One of these was called to the attention of Frank Cortright, Executive Vice President of the National



CORTRIGHT:

"I have never formulated policy. Policy starts in the field and comes up through the structure (of NAHB).

Association of Home Builders, when he appeared on the witness stand. It was from an outraged Milwaukee builder complaining that a Wisconsin Congressman who had been lined up against public housing had walked out on his promise and had voted for the bill.

Home Builders' reply. Cortright's reply was that the Association did not take such a letter too seriously-that it left the disciplining of Congress to crusading columnists. Ironically enough, the Congressman complained about had not actually been a turncoat. He had voted against public housing on every test that counted; had then joined a number of other House members who switched over to the supporting side on the final roll call just for the sake of appearances. The idea apparently had been to curry a little favor with some of the home folks who wanted public housing, after all efforts to defeat the bill had failed.

After listening to Cortright's presentation of how NAHB operated, Chairman Buchanan had a few bouquets to toss. He not only advised Cortright to charge the membership more than \$15 a year for such service but added that if he were a builder he would be inclined to put its worth at \$150. However, there was no indication that this strong Administration Congressman would let his admiration take him quite as far as joining the Home Builder's Association. After all, there were limits.

Another letter of the kind that is wiser not to write was spotted by the Committee's flatties in the files of the National Retail Lumber Dealer's Association. It had been written by an official of the Association to lumber dealers in Ohio suggesting that a Republican member of the state's Congressional delegation be purged for voting in favor of public housing. The embarrassed lumberman responsible for this indiscretion confessed that it had been a mistake.

Other testimony. Not to be one-sided in its scrutiny of housing, the Committee also called in a few witnesses who do not see things in exactly the same light as industry spokesmen. It heard testimony from Lee Johnson, staff director of the National Housing Conference, to the effect that he did not consider himself a lobbyist although he was duly registered. Johnson's argument was that public housers were interested only in the general welfare aspects of the issue and had no personal gain at stake.

From HHFAdministrator Raymond Foley it picked up some information on the way the government housing agencies go about their task of presenting legislative recommendations to Congress. It could find nothing improper in the functioning of this machinery, after Foley had made it clear that all interested parties were sounded out. He said that he talked things over with industry leaders. Asked if he and his assistants attended industry meetings he replied in the affirmative; drew nods of approval when he stated that this travelling was at government expense and not defrayed by the trade associations involved. The policy he enunciated was that if a trip was not important enough to be paid for by the government, it should not be made at

REALTOR'S FEE FIXING ruled illegal in Washington; what about other professions?

Bringing to a final close the government's efforts to apply the antitrust laws to real estate men, the Supreme Court early last month came out with a two way decision. In the case of the National Association of Real Estate Boards it held that the fee-fixing charge could not be made to stick; mainly because of the difficulty in showing

that real estate brokerage constituted interstate commerce. But in respect to the Washington Real Estate Board which was a co-defendant, no such showing was necessary. Laws passed by Congress apply to the city of Washington regardless of whether interstate commerce is involved. By a six to one ruling the Court upheld the government's contention that the Washington board was engaging in illegal price fixing. (NAREB describes its uniform rate schedule as "a voluntary guide for members," violation of which brings no penalties.)

The implications in the case were somewhat disturbing to trade and professional men. Even though the issue was narrowed to Washington it still meant that the Court had extended the antitrust laws up some new avenues. It had concluded that just because a business involves the sale of personal services rather than commodities it is not taken out of the category of trade within the meaning of the Sherman Antitrust Act. (Said Justice Robert H. Jackson, in a dissenting opinion: "If real estate brokerage is to be distinguished from the professions or from other labor that is permitted to organize, the Court does not impart any standards for so doing. It is certain that those rendering many kinds of services are allowed to combine and fix uniform rates of pay and conditions of services. . . .") This would obviously take in a lot of territory depending on how far the interpretation of interstate commerce could be stretched. As some saw it, the way was paved for the government to go after standardized fees in other service or professional fields such as architecture or the business of conducting an advertising agency provided it could: 1) show collusion: and 2) establish that interstate commerce is involved. However, there were no indications that the Department of Justice was looking for new worlds of this sort to conquer. One thing the Court had been explicit about: The Antitrust laws do not apply to workers because of the exempt status Congress had given labor unions. * * *

In another decision last month, the Supreme Court found another building industry group guilty of violating the Sherman Antitrust Law. Reviewing a case started almost 10 years ago, the court upheld a lower court's decree that seven firms manufacturing gypsum products had combined to restrain trade and fix prices.

The defendants: U. S. Gypsum, National Gypsum Co., Celotex Corp., Certain-teed Products Corp., Newark Plaster Co., Ebsary Gypsum Co., and Texas Cement Plaster Co.

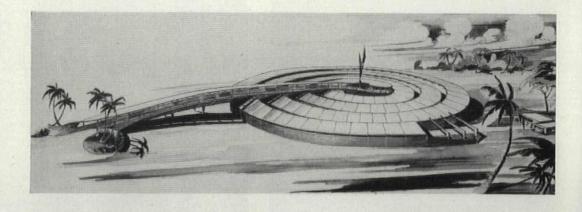
CAPITAL GAINS TAX SLASH could be boon to building, but probably won't stand

Indulging in an orgy of tax slashing, the House Ways and Means Committee, which had been plodding along with a plan for reducing the war-born excise levies, suddenly decided last month to use its cleaver on the capital gains tax. It did two things. It reduced the effective rate of the long term capital gains tax from the present amount of 25 per cent to 16 per cent. Also it cut from six months to three months the period for utilizing the long term gain.

If allowed to stand, this would be a boon to building. It would mean that those in the upper income brackets who have been hanging on to expensive property they own because of the wallop they would get in the form of a capital gains tax, might be tempted to sell and embark on new construction ventures. But few thought the committee would get away with it. Best bet by month's end was that the Senate would either insist on toning the bill down to little more than a program for easing up the burden of the excise taxes, or would refuse to take any action. All realized that a bill that cut substantial chunks out of the government's income faced a Presidential veto. As a small measure of atonement, the House Committee looked around again for more revenue that it could tap and decided tentatively to subject savings and loan associations and mutual savings banks to the federal income taxes. This proposal had cropped up before but building and loan men thought they had talked the Committee out of it. It would tax these institutions and mutual savings banks on their undistributed earnings the same as commercial banks. Heretofore they have been granted an exemption because of their cooperative status. Most observers doubt that the scheme will make the grade this time.

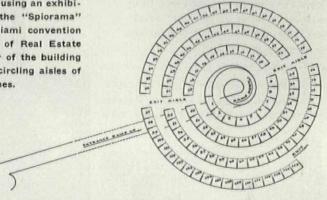
FANNY MAY tightens up on its new mortgage purchases

Before resuming its mortgage purchasing activities with the new money Congress had given it, Fanny May decided that a little tightening up was in order. First it ruled that advance commitments would be out, that henceforth it would limit itself to overthe-counter transactions. While it would of course honor the commitments it had already made it would put the squeeze on them and eliminate any that skirted the regulations. (For example, FNMA would ditch commitments that had been made in the case of housing deals where the builder had not actually acquired the land or where a complete and valid description of the



CIRCULAR EXHIBITION BUILDING will house displays at Realtors' November meeting

An unusual, circular frame building, housing an exhibition of building materials products, the "Spiorama" will be an added attraction at the Miami convention next fall of the National Association of Real Estate Boards. Visitors will reach the center of the building by a long ramp, unwind through the circling aisles of displays, exit in a village of model homes.



property could not be given. Other toning down steps taken would: 1) limit eligibility as far as new purchasing was concerned to mortgages insured by the FHA or guaranteed by VA on or after March 1, 2) require mortgage holders to wait for at least two months before selling to the government-furnished secondary market, and 3) rule out 608 and 207 rental projects.

Ready for business. By mid-May, RFC's little helper in the mortgage field was ready for business again on this subdued basis. With the funds Congress had provided plus what it could scrape together through sales, repayments, and cancellations it had about \$400 million in the till. There was a kind of lull in the operations, however, due to the plan for shifting the program to HHFA. None doubted that this reorganization proposal would clear Congress. Since there were strong hints that HHFAdministrator Raymond Foley favored selling Fanny May's mortgages at par, this end of the business took a nose dive during the transition period. Few customers felt like paying the premiums charged by the RFC management when there was a chance of getting a better buy if they waited.

Private FNMA delayed. Cooling its heels until the shift to HHFA was completed was a new bill giving Fanny May another \$500 million to bolster up the secondary market

and authorizing the chartering of private mortgage associations. (Forum, Apr. '50). While the details had not been revealed, Senator Sparkman (D) of Alabama, who heads the Banking Committee's subcommittee on housing, predicted that the lid would be clamped down still tighter in respect to purchasing activities. He felt that the waiting period required before mortgages could be sold to the government would be increased to six months.

At the beginning of May, FNMA had approximately \$1.3 billion in outstanding commitments to purchase VA and FHA loans, enough to finance at least 200,000 dwelling units. By mid-May, when it resumed purchasing operations, it had more than \$400 million available for purchases beyond loans already committed—enough to provide another 65,000 houses.

Options to buy loans from FNMA, at mid-month, amounted to more than \$290 million. Total sales during the year may double this figure, will probably reach at least \$500 million—enough to provide new funds for financing about 80,000 houses.

The total FNMA potential financing for the year is thus around 345,000 dwellings. (With VA's available \$150 million for lending, direct government loans could cover almost one-third of 1950's housing output.)

Photos: Reni



LOS ANGELES DELEGATION included Charles E. Fry, John Rex, Dean Arthur Gallion of University of Southern California's School of Architecture and Henry Wright.

GREETINGS from Robert Hutchins, New York City, and Henry L. Murphy, Brooklyn, to Arthur C. Holden, New York City.



SCHOOL SITUATION is aired by Roy Childs Jones, head of the University of Minnesota's School of Architecture and president of the National Architectural Accrediting Boards, and Francis R. Bacon, dean of the School of Architecture at Western Reserve.



CORRIDOR CONVERSATION: Henry R. Livas, Washington, D. C., and Emilio Levy, New Orleans, La.

PIETRO BELLUSCHI, Portland, gree's Henry Saylor, editor of AIA Journal. Belluschi told students: "We're very much in need of emotional satisfaction. How are we going to get it? It depends on how well we understand our environment."





TECHNICAL SYMPOSIUMS and discussions of city planning, held in the Mayflower's Grand Ballroom, were usually filled to capacity.





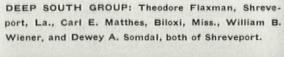
DELEGATES Albert Heino, Chicago, and Francis J. McCarthy, San Francisco.



KUMP BROTHERS, Ernest (left) and Peter (right), San Francisco, with Hugh Stubbins, Lexington, Mass.



KENNETH WELCH led one of the technical discussions on lighting.







At its 82nd annual convention last month, the American Institute of Architects lifted its sights to take in city planning as a matter of deep concern to the architect as a planner in three dimensions. Using as a springboard the 150th anniversary of the founding of Washington, the convention city, President Ralph Walker sought to reinspire the AIA as it had once been inspired at the turn of the century by famous old Daniel Burnham and Charles McKim and their "City Beautiful" movement; as it had been inspired again in the 20's by Charles Whittaker (then editor of the Journal), Henry Wright, Clarence Stein and other leaders of the "Garden City" movement.

Some of the main figures at the convention had their roots in these two past eras. Sir Patrick Abercrombie, author of the London County Council Plan for the city and county of London, who was given the Institute's Gold Medal, had won his spurs as a young man with a thorough research on the American "City Beautiful" plan, had planned a London for the future on "garden city" principles of openness. Paul Windels, of New York City's Regional Plan Association, represented forces (since thwarted by Robert Moses) which had come as close as any in America to the Abercrombie methods and purposes. Walker himself, and his partner, Perry Coke Smith, chairman of AIA's Urban Planning Committee, had recently made a notable contribution, though at limited scale, in their Fresh Meadows development on Long Island for the New York Life Insurance Co.

The convention discussion, a good deal of it hinging on Washington as the nation's capital, was at an inspirational rather than a practical level. It sought to restore an atmosphere favorable to architectural action rather than descend to practical discussions of Title I (the Redevelopment Title) of the National Housing Act of 1949, or what to do about the 80 per cent of the new homes for Americans which are being built by merchant builders without benefit of architects. (President Walker, however, was strongly aware of the invitation of Thomas Coogan, president of the National Association of Home Builders, to discuss at top level ways and means for architects and home builders to work together. Walker assured questioners from the floor that an AIA committee would promptly meet with the Home Builders).

The 2.000 delegates and members, a record attendance, greatly enjoyed all the inspiration-level talk. They happily applauded all over again Lewis Mumford's



GOLD MEDAL WINNER, Sir Patrick Abercrombie, gets a pointer from AIA President Ralph Walker. Sir Patrick took a dim view of most of the architecture in Washington (he called the Library of Congress an "absolute blooper") but thought the White House "perfectly splendid" and the Washington monument paralled by no other monument except the Pyramids.

OTHER AIA OFFICERS: Glenn Stanton, first vice president; Kenneth E. Wischmeyer, second vice president; Clair W. Ditchy, secretary; Charles F. Cellarius, treasurer.









plea for the creation of small communities with regional controls-perhaps another future convention would analyze more deeply how to establish such controls. And there was much to be inspired by in the addresses of Walker and Windels and Abercrombie. (See excerpts, opp. p. 17.)

And what the policy meetings lacked in specific detail, the technical program carried in great quantity. Exhaustive information on light and illumination as design factors brought heavy attendance at the technical symposiums led by such experts as Kenneth Welch, C. L. Crouch, Willard C. Brown, R. L. Biesele, Jr., Howard Sharp, and Stanley McCandless.

Generally, the delegates and members who milled through the halls of the stately old Mayflower were well satisfied with their convention. One disappointment: The entries for residential, commercial, and ecclesiastical awards-by individuals instead of by chapters-had numbered only 70 in all three groups; the church jury had decided that none of the entries in that category was worth an award. (Residential design winners: first honor award to A. Quincy Jones, Jr., for the Hvistendahl house in California; awards of merit to Mario Corbett, Hugh Stubbins, Jr., and Twitchell & Rudolph. Commercial design winners: first honor award to Harold M. Heatley and Ketchum, Gina & Sharp, for Davison Department Store, Augusta, Ga.; awards of merit to Ketchum, Gina & Sharp, Maynard Lyndon, Kenneth Franzheim, and two to Welton D. Becket.) And the prize-winning U.S. exhibition brought back from the



Photos: Ren

PRESIDENT'S RECEPTION on the terrace of the Hotel Shoreham provided the convention's festive note. Delegates and members lined up for an hour to shake the hand of President Walker and his wife, and Sir Patrick Abercromble and his daughter, Mrs. Deborah Farley, then gathered in groups such as those below:



Mr. and Mrs. John N. Highland, Buffalo, with National Association of Home Builders Representative Carl Lans.

Julian Clarence Levi, New York City; Mrs. Frank Berry, Laguna Beach, Calif.; Charles A. Hunter, San Diego; Mrs. Levi; Mrs. Hunter; George H. Boyer, Arlington, Va.; Mrs. Boyer.



Hospital Architect Slocum Kingsbury (right, above) talks with Clarence Stein and Catherine Bauer, and (left, below) with William W. Wurster and Mrs. Kingsbury.





Cuban Pan-American Congress was avable to be seen only taridly and ther emasculated form.

The Institute's Old Guard kept a weye on its insurgent group, the grow band of young architects who two years began to feel their oats with an organiputsch which forced the Gold Medal awto Frank Lloyd Wright, and who last yattempted unsuccessfully to promote the own candidate for president. But this yethe insurgents did relatively little plott (There were no fireworks in this ye election; following established policy, officers were given second terms.)

There did come up from the floor resolutions seeking to democratize Al election system. One demanded that gional directors be elected regionally; was set aside as illegal. The other attempt to shift the election of Institute office from the delegates to the membersh (Delegates usually are older and better tablished architects who are selected to resent their chapters mainly because the can afford the trips to distant convention. On a second consideration of this resolution, it was voted to poll the membersh

Less happy in its tone than the rest the convention was the pre-convention m ing the the Association of Collegi Schools of Architecture. Goaded by Pr dent Walker's repeated critical speech the ACSA replied with a resolution wh specifically commended the work done the schools; other resolutions more stron pointed at the critic died in committee.

Before adjourning, the convent elected the following group of new Fello with the proposal that this year th elected for service in design be invited exhibit examples of their work:

Harry Inge Johnstone, Mobile, Al Jack Bass Smith, Birmingham, Ala.; Alfi S. Nibecker, Jr., Pasadena, Calif.; Eldrid Ted Spencer, San Francisco; J. Warn Armistead, Jr., Atlanta; Harold Hea Davis, New Haven, Conn.; John Ogd Merrill, Chicago; Samuel G. Wien Shreveport, La.; Harold Buckley Will Boston; John Gaw Meem, Santa Fe, N. M. Leopold Arnaud, Hugh Ferriss, Tall Faulkner Hamlin, Frederic Rhineland King, Perry Coke Smith, Harvey Stevenso and Frederick James Woodbridge, all New York City; Ralph Edward Winsle Troy, N. Y.; A. Lincoln Fechheimer, C cinnati; William Pope Barney and Jose Patterson Sims, both Philadelphia; Her Y. Shaub, Lancaster, Pa.; James Chillma Jr., and John Thomas Rather, Jr., Housto Arthur Elliott Thomas, Dallas; Clinton Cowgill, Blacksburg, Va.; and Geor Gove, Tacoma, Wash.

(Continued on page opposite 17)

HAUSERMAN USERS... AMERICAN CAN AMERICAN LOCOMOTIVE ARMCO BELL TELEPHONE BENRUS WATCH BETHLEHEM STEEL **BURLINGTON MILLS** CAMPBELL SOUP CONTINENTAL CAN DU PONT EASTMAN KODAK FIRESTONE FORD FRUEHAUF GENERAL ELECTRIC GENERAL FOODS GENERAL MOTORS GENERAL PETROLEUM GLIDDEN GOODRICH GOODYEAR JOHN HANCOCK JOHNSON & JOHNSON NASH-KELVINATOR PRUDENTIAL LIFE RELIANCE ELECTRIC REPUBLIC STEEL STANDARD OIL, IND. STANDARD OIL, N. J. STUDEBAKER U. S. RUBBER WEATHERHEAD WESTINGHOUSE UNITED STATES STEEL ... and many others



An Executive Office by Hauserman at Burroughs Adding Machine Co., Detroit, Michigan

EASY TO LOOK AT

...easy to move

Distinctive and esthetically pleasing environments are provided for all types of non-residential structures by Hauserman *Movable* Steel Interiors. These rich, beautiful, rigid walls and ceilings meet every operation and construction requirement from presidents' offices to shipping rooms. They include movable partitions, railings and enclosures of all types that are interchangeable with each other—matching window-wall wainscot—interior doors—built-in accessories—and acoustical ceilings.

Hauserman Movable Steel Interiors also assure efficient utilization of all floor areas for the life of the building. Hauserman Movable Steel Interiors are quickly and easily moved whenever new floor layouts will promote administration or manufacturing efficiency . . . often in a matter of hours. Whenever Hauserman Steel Interiors are moved, all units are completely re-used.

There are many reasons why Hauserman Movable Steel Interiors are used in the smaller as well as the larger buildings in America. Among these

advantages are: Rock-bottom Maintenance Costs—Excellent Sound Control—Rigid Construction—Earlier Occupancy—Incombustible Materials—Ease of Adding Wires and Outlets—Ease of Servicing Utilities—Beautiful Colors and Authentic Wood Grain Finishes—Easy to Move.



Write for our new 60-page, fully-illustrated catalog-no obligation.

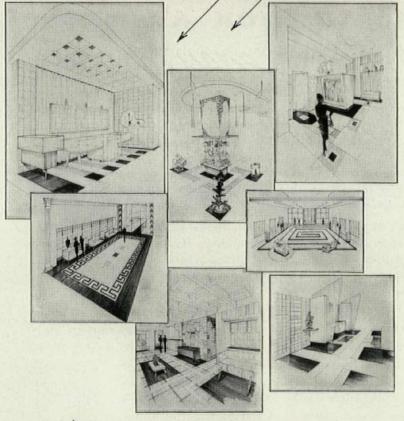
The E. F. Hauserman Co. • Partitions • Wainscot • Railings • Acoustical Ceilings • Complete Accessories 6763 Grant Avenue, Cleveland 5, Ohio

ORGANIZED FOR SERVICE NATIONALLY SINCE 1912





ASPHALT FLOORING TILE



A leading architect has spent months of research and intensive study in preparing this series of store interiors. They are designed to beautify, to direct store traffic, to individualize departments-and to provide the unusual in beauty, endurance and economy-when you specify HAKO Asphalt Tile Flooring. Write for these "IDEAS" today.

Established 1903

HACHMEISTER-INC.

PITTSBURGH 13, PA., U. S. A.



"On America's Most Beautiful Floors!"

The city of the future, and how to achieve it. occupied the attention of most AIA speakers:

Sir Patrick Abercrombie:

Make big plans and have small parts that can be carried out at once. Make them flexible, so they can be brought up to date, but make big plans . . . The ideas (of the City Beautiful movement) have not all been carried out, but the germs of great ideas are to be seen in the cities that had such plans. (For instance, Cleveland, Chicago.)

Frank Walker:

In the next 50 years we must eliminate the slums, we must eliminate the . . . back alley which mocks our claims

of humanity with its stable concept of living and devote ourselves to creating a living community of home and garden, in which is reasserted the belief in the possibility of equal opportunity for all alike . . . The city of the future is going to be so widespread as not to be recognized as a city form. I foresee . . . people living and working in low



buildings among great trees-wide areas of green rather than black top or concrete; I see the whole skyscraper idea in disrepute; I see new ghettos which house . . . only the robots.

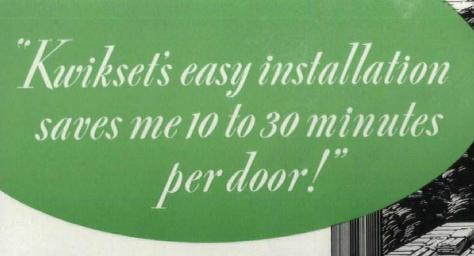
Lewis Mumford:

The small town of the future, once regional ideals and goals supplant metropolitan ideals, will have the following characteristics. First: it will be limited in area, limited in population, limited in density. In areas where clusters of small towns may be developed, the normal size of the small town may be between 20,000 and 50,000 people; in other areas, where because of topographical difficulties, perhaps, such clusters may be hard to achieve . . . the small town might reach 60,000, 80,000, or in exceptional cases, perhaps 100,000 inhabitants. . . . Each town will be surrounded by a permanent greenbelt, either established by a state zoning law, or owned by the city....

Paul Windels:

How can these plans (for channeling the outflow of population into many separate and clearly defined suburban towns and villages) be carried out? 1) The first step is public interest and understanding . . . every effort should be made to strengthen citizen organizations for metropolitan planning. Where they do not now exist they should be established. . . . 2) There should be established a National Commission on Urban Population Distribution to study, report and make recommendations on trends in population movement to and within urban areas. . . . 3) State created Commissions should be established for each such Metropolitan District with coordinating powers in relation to master planning, zoning, subdivision control and the provision, on a regional basis, of public projects and facilities. . . . 4) A broad and consistent Federal urban policy is required. Obviously its purpose should be to effectuate local planning subject only to the

paramount necessities of national defense. . . .



Builder's Time Studies Show that Kwikset Locks are the World's Fastest and Easiest Locks to Install!*

More and more builders all over America are recognizing the cost-saving features of Kwikset locks. They've found that Kwikset locks save them money two ways. First, Kwikset locks cost less to buy. Second, Kwikset locks cost less to install. Typical of the enthusiastic acceptance of Kwikset's simplified, time-saving installation is this unsolicited statement by a large builder of F.H.A. insured tract housing: "I make it a point to buy Kwikset for every door of every house I build. We've made detailed time studies of the length of time to install all popular residential locks and have found that Kwikset saves our men 10 to 30 minutes per door on installation time. The ease of installation coupled with low cost assures our continued use of Kwikset locks."

Compare These Kwikset Installation Features With Any Other Residential Lock

- Kwikset's tubular design permits simple, 2-hole installation—eliminates mortising.
- Kwikset's unique installation jig assures exact right angle holes—speeds perfect installation
- Kwikset's cylinder is quickly and easily reversed on the job for installation on left- or right-hand, inswinging or outswinging doors.
- Kwikset's novel construction automatically compensates for different door thicknesses -saves installation time

Combine these time-saving installation features with Kwikset's striking beauty, high quality and low cost and there is little wonder why more and more architects are specifying Kwikset. They've found that Kwikset locks are a credit to any home . . . and to the architect or builder who puts them there.

*Name and address available upon request.

MANUFACTURED BY

DISTRIBUTORS

1107 East Eighth Street

Los Angeles 21, California

Want to carry power vertically?

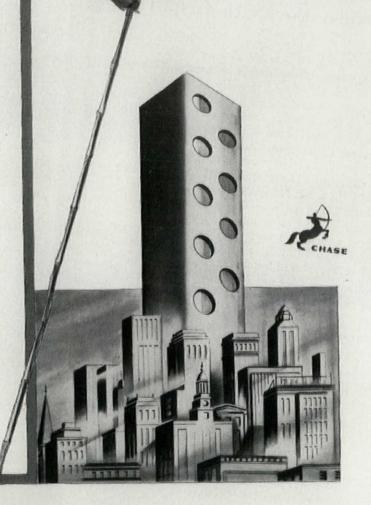
CHASE SQUARE COPPER TUBE BUS CONDUCTOR

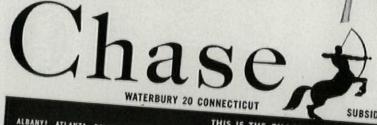
is the way to handle it

THE SQUARE SHAPE of Chase Copper Tube Bus Conductors means more rigid construction . . . higher mechanical strength to resist the stresses of short circuits. With four flat sides, and a large cross-sectional area, they can be securely anchored to the floor, assembly is easier . . . efficient and economical connections can be made to power-and-light panels. And - there is no danger of insulation moving downward, to leave thinly protected sections.

IN ADDITION to having excellent currentcarrying capacities and extreme resistance to corrosion, Chase Square Copper Bus Conductors require only one tube per phase ... minimize "skin effect"... can be arranged in triangle-formation, resulting in equal spacing and equal voltage between phase conductors.

• For complete information about these stronger, better Bus Conductors, write to Dept. AF650, Chase Brass & Copper Co., today!





the Nation's Headquarters for

SUBSIDIARY OF KENNECOTT COPPER CORPORATION

THIS IS THE CHASE NETWORK ... handlest way to buy brass

ALBANY! ATLANTA BALTIMORE BOSTON CHICAGO CINCINNATI CLEVELAND DALLAS DENVER! DETROIT HOUSTON! INDIANAPOLIS KANSAS CITY. MO. LOS ÁNGELES MILWAUKEE

MINNEAPOLIS NEWARK NEW ORLEANS NEW YORK PHILADELPHIA PITTSBURGH PROVIDENCE ROCHESTER! ST. LOUIS SAN FRANCISCO SEATTLE WATERBURY (†Soles Office Only)





First Choice with Leading Architects and Builders

fuel-thrifty Mueller Climatrol

The complete Mueller Climatrol line is the first choice among leading builders and architects for many reasons. First, they know this complete line gives them the heating unit that is right for any job—with any type of heat, any type of fuel. Secondly, they know that they deliver years of Mueller Climatrol's fuel-thrifty comfort—a guarantee of customer satisfaction. Finally, they deliver a heating system whose name has universal acceptance—thanks to Mueller's 93 years of leadership in the home heating industry. Write for full details. L. J. Mueller Furnace Co., 2117 W. Oklahoma Ave., Milwaukee 15, Wis.



ARCHITECT AND BUILDER continued

In its April issue (p. 117) the Forum propose that the Architect and Home builder get togethe on the design of small houses, for their mutual benefit and the benefit of the average Americal family. President Thomas P. Coogan of the National Association of Home Builders and President Ralph Walker of the American Institute of Architects, in the same issue of the Forum, expressed their agreement with the proposal and their willingness to meet each other half-way to evolve methods of work and professional remuneration which would help put Forum's proposal in effect.

Following are excerpts from some of the hur dreds of letters which Forum has received con menting upon its April editorial:

Forum

The April issue of the FORUM dedicated t a better understanding between architect an builder is very heartening and refreshing.

It will be a great revelation in about seven of eight years for you to visit numerous cities and see the marked change, not only in the more modern design of architecture, but in a much better built home.

The Forum's new attitude in the past year of year and one-half in promoting unity for the sak of both efficiency and beauty to each home pur chaser is certainly a wonderful break for the homeowner. Your efforts will bring together the outstanding architect and the outstanding builder which will certainly eliminate a lot of guess work and will be a great accomplishment.

As a matter of personal amusement, on you visits to various cities if you will look at the typ of houses as you approach each city or town, you can readily determine if the community is aggressive, or if the residents are satisfied with just a place to live.

After your program has had time to take hold this pattern will be eliminated and will take on the air of progress.

FRANK W. SHARP, Builde Houston, Tex.

Forum:

Now that the problem has been defined, let the "best minds of the AIA" crystalize our thinking into a constructive program of research and as equitable schedule of fees for group housing.

R. E. LANGDON, JR., Architect Pasadena, Calif.

Forum:

The premises indicated in your article are accurate.

ALFRED SHAW, Architec

Forum

Builders doing about 25 per cent of Houston' development housing have already worked ou (Continued on page 22)

& floor plan for living!

Take any room in the house . . . a Sloane-Blabon floor covering will make it more livable! For Sloane Quality Linoleum Products mean added beauty through "better design and truer color"—

less work for homeowners because these floors are easier to keep bright and clean.

And, there's a Sloane-Blabon floor covering for every need and specification. Write for further information.







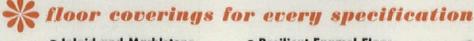












- Inlaid and Marbletone
 Linoleum
- Linoleum Tile
- Koroseal* Tile, Cove
 Base and Cove Molding
- Improved Asphalt Tile
- Resilient Enamel Floor Coverings
- Resilient Enamel Rugs
- Resilient Enamel Wall Coverings

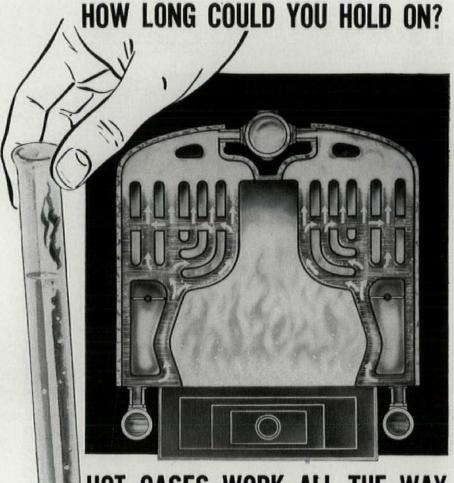
For further information and samples, write Dept. F-3

SLOANE-BLABON CORPORATION

295 FIFTH AVENUE, NEW YORK 16, N. Y.



*® B. F. Goodrich Company



HOT GASES WORK ALL THE WAY UP IN H. B. SMITH BOILERS

. just the way they flow up this test tube held over the Bunsen burner. In a matter of seconds you'd have let go.

That's one reason why H. B. SMITH cast iron boilers are designed with large vertical cast iron water tubes - for faster heat absorption all the way up and completely around every tube.

There are other reasons of course. 1) Less soot clings to the smooth vertical tubes -they are virtually self-cleaning. 2) Water tube design means maximum heating surface. 3) Properly proportioned channels between the tubes permit free passage of the hot gases with low draft loss. 4) Sections are all grey iron for low maintenance -long life. H. B. SMITH boilers have been in service for more than 65 years. 5) Header type construction permits operation with one or more sections out of service, if necessary.



, all good reasons why Smith Engineered Boilers give more heat per fuel unit, use less fuel, and cost less to operate. For all the reasons write for free catalogue today.



THE H. B. SMITH CO. INC., WESTFIELD, MASS.

Most complete line in the world of cast iron boilers for heating

a similar arrangement with certain architects is Houston, and I believe that it accounts for the fact that the average of Houston's developmen housing is ahead of most of the country in design

ARNE G. ENGBERG, Architec Houston, Tex.

Forum:

The small house problem is one particularly dear to me since I have specialized in this brancl of architectural design since I started to practice in 1934. Even though we have now graduated to large public work we still are taking all comers including those clients who want to build house costing \$10,000 and under. I recognize that ser vicing the speculative builder is something else again, but recognize that the architect must in terest himself to a greater degree in this problem

Our firm will cooperate to the utmost degree in any respect which may be requested of us by the Institute or by anyone in the building industry in working out an equitable arrangement where by the architect may render service to the builder

> ALLEN J. STRANG, Architec Weiler & Strang Madison, Wis.

Forum:

Your editorial on the small house problem touches a matter of basic significance. The contribution which the architectural profession could make in this neglected field will prove to be essential not only economically, but in the best sense of providing better homes and better living.

In America, unfortunately, we have paid little or no attention to the blighting effect of poorly designed houses upon our landscape. Traveling along our highways is a sad experience due to an unending parade of unsightly small houses. To day, as in the past, taste is created by example: if the standard of design is raised in large scale housing developments, it will inevitably affect all housing. Raising the standard of design in the broadest possible sense of better planning, better construction, better site planning and landscaping, is long overdue in the small house field.

RODERICK SEIDENBERG, Architect Pipersville, Pa.

Your lead editorial in the small house issue is most timely, analytical, and convincing, and I hasten to congratulate you on the splendid presentation. I sincerely trust that your initiative will lead to the elimination of the barriers of aloofness and misunderstanding in this vital phase of our national economy.

I will not bore you with a recitation of the local attempts to break down the barrier, for I am certain that they have been tried elsewhere and failed. Obviously it is because we did not try hard enough, but that should not be just cause for submission.

There is no doubt about the importance of this problem, the need for cooperation and underto keep you saying:

"Here is facing Tile at its best"

is the aim of these "10 Good Names to Know"

Who are the "10 good names to know"?

They are leading manufacturers of Structural Clay Facing Tile.

Together this progressive group comprises the Facing

Tile Institute.

What are the objectives of the institute?

There are two main objectives. The first is to maintain, and continually improve upon, the quality of their products. The second is to coordinate the physical dimensions of all units.

How are these objectives being achieved?

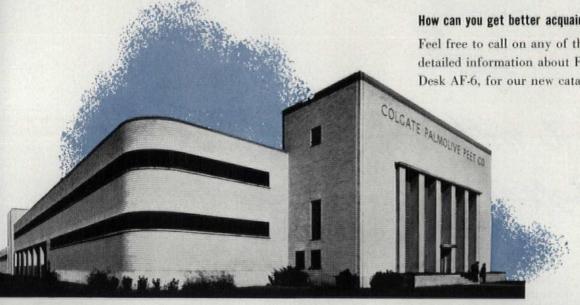
The Institute has established a rigid set of quality standards, tests and grading rules which are applied to all members' products. Continuing research brings constant improvements in both the body and glazes of the tile. Coordination is being achieved by standardizing on simplified sizes and shapes, and on a wide range of colors in glazed and unglazed finish.

How does all this affect the architect or builder?

It gives you guaranteed quality and ease in use. It enables you to design and specify from a single set of specifications. You can be sure that any product of an Institute member will be of satisfactory shape and size, and up to Institute quality standards in every detail.

How can you get better acquainted with the "10 good names to know"?

Feel free to call on any of them at any time. Or, for detailed information about Facing Tile, write the Institute, Desk AF-6, for our new catalogs, 50-C and 50-S.



Toilet Article Building Colgate-Palmolive-Peet Company Jeffersonville, Indiana

FACING TILE INSTITUTE

1520 18th Street, N. W., Washington 6, D. C.

10 GOOD NAMES TO KNOW BELDEN BRICK CO. METROPOLITAN B

Cunton, Ohio
CHARLESTON CLAY PRODUCTS CO.

Charleston 22, West Virginia
HANLEY CO.

New York 17, New York
HYDRAULIC PRESS BRICK CO.
Indianapolis, Indiana

MAPLETON CLAY PRODUCTS CO.

Canton, Ohio

METROPOLITAN BRICK, INC. Canton, Ohio

McNEES-KITTANNING CO. Kittanning, Pennsylvania

NATIONAL FIREPROOFING CORP. Pittsburgh 12, Pennsylvania

STARK CERAMICS, INC.

WEST VIRGINIA BRICK CO. Charleston, West Virginia





Fasten it with STAINLESS STEEL for Better Looks - Longer Life

LEADING PRODUCERS OF FASTENERS USE ALLEGHENY METAL

A complete line of stainless steel fasteners—all types and sizes of bolts and nuts, rivets, wood and machine screws, cotter pins, washers, etc. are made of Allegheny Metal by the leading manufacturers in this field. Get in touch with them for catalogs and prices, or write us direct.

ADDRESS DEPT. AF6

Allegheny Metal fasteners are nonrusting, non-staining. They will last as long as, or longer than, the materials they join. You can count on them to stand up through the years—both in strength and in bright good looks.

Best of all, stainless steel fasteners can be used anywhere. It isn't necessary that the materials to be joined are stainless—these corrosion-proof fasteners are the perfect answer for joining other metals, woods, or plastics. And Allegheny Metal fasteners are available in complete variety—you can obtain exactly what your job requires.

For improving quality and reliability wherever they're used—and for the economy of lifetime service—specify fasteners made of the time-tested stainless steel, Allegheny Metal.



Nation's Leading Producer of Stainless Steels in All Forms

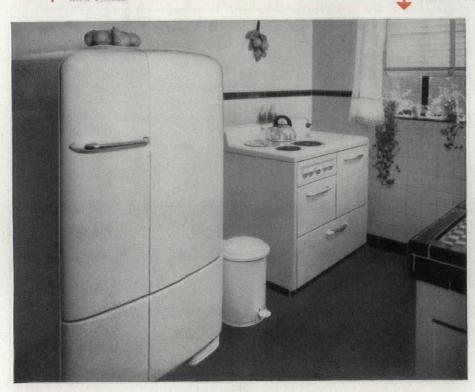


ALLEGHENY METAL is stocked by all Joseph T. Ryerson & Son, Inc. warehouses



These de luxe 4-unit apartments, designed and built by Mr. C. Ronald Marcotte in Cincinnati, Ohio, are further proof that Electric Ranges are an attraction for prospective tenants in all types of apartment buildings, large and small.

All the light and homelike kitchens in these delightful apartments have one thing in common. Their equipment includes modern appliances, and the range in each—OF COURSE...IT'S ELECTRIC!



ELECTRIC RANGE SECTION, National Electrical Manufacturers Association, 155 E. 44 St., New York 17, N. Y.

ADMIRAL • COOLERATOR • CROSLEY • FRIGIDAIRE • GENERAL ELECTRIC • GIBSON • HOTPOINT

KELVINATOR • LEDO • MONARCH • NORGE • UNIVERSAL • WESTINGHOUSE

"I find that Electric Ranges help put 'rent appeal' into my apartments," says Mr. Marcotte. "They're what people want nowadays."

Surveys show that more people all the time prefer electric cooking. That's why it will pay you to include modern Electric Ranges in your apartment projects. Include the necessary wiring during construction. This reduces installation cost to the minimum.





Startlingly different — an entirely new conception — Fleetlite is the window you have been demanding for years. Engineered and built as a complete packaged window, Fleetlite provides frame, sash, storm sash and screen as

an integral unit, easily installed at one time. Home owners like the self-storing convenience of FLEETLITE—its economy, its beauty, its permanence. Already installed in thousands of homes throughout U.S. and Canada.

"What people are looking for," says Builder.



Gentlemen:

Enclosed is an order for Fleetlite windows for an additional group of homes which I am starting in the early spring.

After using your windows in all of my building during 1949, I can truthfully say that the fact that I was featuring your windows accounted for a ready market for my homes and advance orders extending into 1950.

It may interest you to know that recently I had one of these houses open for inspection for one day, and at that time, took orders for twelve additional homes, all to be equipped with your windows. As a result I am convinced that the new design features of Fleetlite Windows are what people are looking for even in low-cost homes, and I am therefore planning on using your products exclusively during the coming year.

Many thanks for your good cooperation and prompt service.

Val F. Herrmann Hamburg, N. Y.

Write today for full details or see your distributor.

Made by FLEET OF AMERICA, INC.



standing, and the fact that it is a tough nut to crack. But I would like to point out another facet to the problem, and I believe it is a very important one: the Public. Since they are the ones who suffer most and conversely should receive the most benefit, I strongly urge that greater effort be exerted in impressing upon them the benefit to be derived from real (even partial) architectural service; awaken them to a realization that in the stock "planning service" house they are not receiving real bonafide architectural service (even though they are often lead to believe that they are, and often pay for such "services").

If the Public is made fully aware of the potentialities of such real services, and in most cases without any increase in the overall packaged cost (not counting the obvious benefits) I feel that the Public will soon demand such cooperation.

I have not had much experience with the submission of small houses through the FHA but the occasions have been accompanied by a feeling that the appearance of an architect's name on the drawings immediately foretold of complications. The attitude of the FHA could well afford some scrutinizing, too, if the program is to be made workable. . . .

> LESTER C. HAAS, Architect Shreveport, La.

Forum:

Although I seldom design any houses, I have had any number of clients asking for small house designs which I could not afford to do for them and do not know where they could obtain them at a reasonable cost.

Not only the builders, but many laymen are becoming "architecturally" minded and not merely satisfied with four walls and a roof. The architectural profession should do something about solving the small house problem. The sooner the better for all of us. I shall do all I can to help along.

M. M. Konarski, Architect Akron, Ohio

Forum:

Congratulations. A meeting between the officials of the NAHB and the AIA to discuss the problems, objectives and aims of both groups is something which has been needed for a long time. It will clear up the persistent confusion that exists in both groups regarding fees, services, etc. I am sure most builders and architects have been wondering why a national policy hasn't been worked out between both groups before, and will welcome the proposed meetings and the results. Architects, builders, homeowners, and the residential archecture of the country cannot help but benefit.

To me, it has always seemed a paradox that the largest segment of the building industry, and therefore the largest potential group of architectural clients—the merchant builders and the

(Continued on page 30)



Blanket Protection!

BARRETT* ROCK WOOL INSULATION IN

8-FOOT BATTS



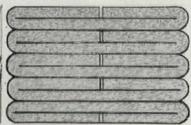
8-FOOT LENGTHS. Goes on faster. Fewer seams—an unbroken vapor barrier from floor to ceiling—mean better insulation, less condensation. Also available 15" x 24" and 15" x 48", full and semi-thick.



FIRE-SAFE. Barrett Rock Wool Insulation is a fire-proof material—functions as a barrier to the spread of fire. A blowtorch won't burn it.



soffens sound. Cuts down outside noises and, strategically applied to partitions between rooms (as in the case of a bathroom), it virtually eliminates sound transference.



WON'T LUMP UP. Firm, springy Barrett Rock Wool doesn't"drift" or get lumpy. High resilience assures uniform density of insulation over all areas,

Now you can give your customers the matchless protection and economy of seamless floor-to-ceiling blanket-type insulation. Made with vapor barrier on one side and creped Kraft on the other, Barrett* Rock Wool batts are available in various thicknesses and lengths (up to 8 feet) to meet every building requirement. Resilient, clean, lightweight and quickly applied, they combine excellent thermal and acoustical properties with modest cost. Barrett insulation is a fine product sold by the same company which developed the famous Barrett* Specification* Roof. Write for data.

THE BARRETT DIVISION

ALLIED CHEMICAL & DYE CORPORATION

40 Rector Street, New York 6, N. Y. 205 W. Wacker Drive, Chicago 6, III. 1327 Erie Street, Birmingham 8, Alabama 36th St. & Gray's Ferry Ave., Philadelphia 46, Pa.

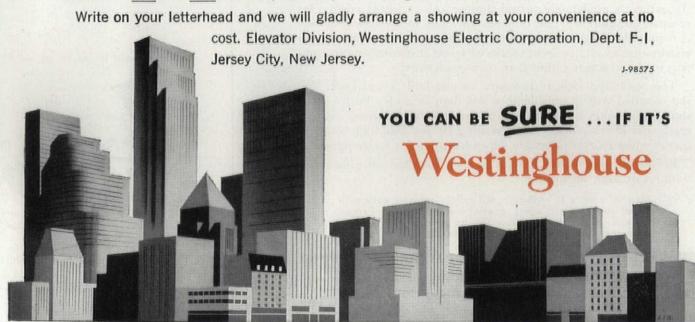






What kind of an elevator traffic condition gives you the most trouble? Incoming rushes?... outgoing surges?... intermittent traffic demand in either direction?... or a combination of all three? Whatever it is, Westinghouse Selectomatic will solve it instantly and automatically. Selectomatic is the unique "electrical brain" that matches calls, cars, and floors under all traffic conditions and reduces waiting time in some cases as much as 50%.

But, even a series of advertisements cannot illustrate all the benefits of Selectomatic. **To** dramatize the complete story of this ingenious electrical brain, Westinghouse has produced the 26-minute sound motion picture "Speeding Vertical Transportation with Selectomatic Elevators." See and hear the complete story of Westinghouse Selectomatic.





A shower unit designed for Built-in installation in bathrooms . . .

At last . . . a moderately priced shower unit expressly created for recessed installation . . . the only prefabricated metal shower cabinet that provides for continuity of the bathroom wall material. By the elimination of all apparent cracks or joints it becomes an integral part of the structure rather than merely a fixture.

The result is a rich, ultra-smart, custom-built appearance. Yet, the installed cost is considerably less than that of a built-up tile shower. It makes a permanently water-tight installation, will not crack and develop leaks with settling of the building, as often occurs when mortar joints are depended upon for water-tightness.

Reversible side panels, valves can be installed on either side without drilling on the job.

Size 36" x 36" x 80"—Bonderized galvanized steel walls with baked-on synthetic white enamel—will not rust. Precast terrazzo receptor. Clean interior, no screws or projecting fastenings to mar the bright white smooth enamel finish.



FIAT METAL MANUFACTURING COMPANY

Three Manufacturing Plants
(Chicago area plant) Franklin Park, III.
Long Island City 1, N. Y. Los Angeles 33, Calif.

In Canada: Fiat showers are made by Porcelain and Metal Products, Ltd., Orillia, Ontario

architects—have misunderstood each other's requirements, duties, problems, etc. Each regarded the other more or less as a "necessary evil." One of the paramount reasons for this has been the unrealistic approach to the fees and the lack of a uniform scale agreed upon by both groups.

Since the war, my experience with builders has borne out what Mr. Coogan says. The builders more and more are learning and appreciating the value of competent architectural service and have shown that they will meet architects "half way" with respect to realistic fees. Incidentally a full explanation to them of what an architect's services consist of beyond that of merely "filing plans," helps.

With respect to the architects, in the past, they have always bitterly complained that they were cutting each others fees on builders' work and therefore were being unethical, etc. This has been true because the AIA fee schedule to date has ignored the merchant builder client and is therefore, useless. In the first place, many architects have found that the AIA fee schedule is not standard throughout the country, varying with different chapters, and secondly, the fee schedule only applies to individual custom designs. Each man was left to develop his fee in accordance with his own experience. There was no guide or policy; no one could say which was right or wrong.

If a realistic fee schedule is developed from these meetings, I think it should be given the widest possible endorsement and publicity by each organization and again by the FORUM. If the architects do not "hold together" in observing this schedule, it will in effect be worthless, and if taken advantage of, they will have no one but themselves to blame for their dissatisfaction with doing work for merchant builders.

> BERTRAM LEE WHINSTON, Architect New York, N. Y.

Forum

Feel fine about it-being an old Pharisee and



Levite myself, at the same time, which, in itself, is an achievement of which I am not too proud.

ALFRED BENDINER, Architect Philadelphia, Pa.

Forum:

It's dynamite! But whether it goes off with a (Continued on page 34)

How to choose materials for sound conditioning churches

In selecting acoustical materials for churches, consideration should be given to many other factors besides sound-

absorbing efficiency. The best practice is to choose materials with qualities that best meet the special requirements of each church area. Seldom can one material meet the requirements of all areas. It takes a range of products like those found in the Armstrong Line to meet the varied needs.

The sanctuary and chapel are the most important areas. Here, the acoustical problem is one of improving hearing conditions. Care must be taken to have sufficient sound absorption to eliminate excessive reverberation but not so much that it alters the quality of and deadens music and voices.

From the standpoint of efficiency, practically any qualified acoustical material can be used. The only question is how much to use for best results. An analysis may show that a highly absorbent material should be used in panels, but a less efficient one may be installed over the entire ceiling area.

The choice of material depends largely on the decorative effect desired for the area. A material like Arm-

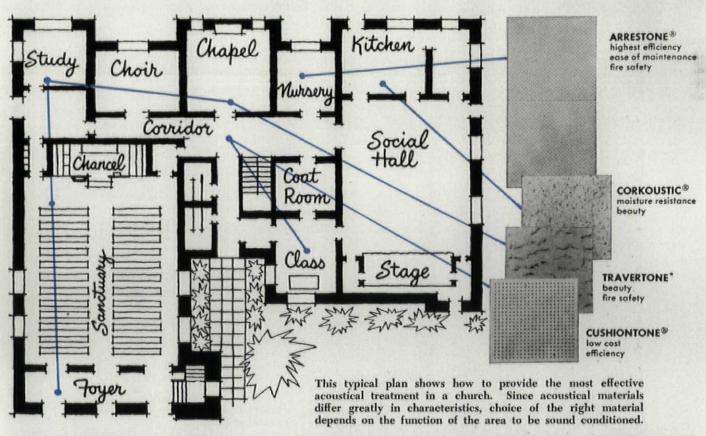
strong's Travertone is especially desirable. Travertone is an incombustible mineral wool tile with a distinctive white, fissured surface. If ceilings are vaulted, Armstrong's Corkoustic can be used. It also has an attractive surface and, since it is flexible, can be fitted to curved surfaces.

Elsewhere in the church, acoustical materials are used primarily to reduce noise. In the social hall, basement, and classrooms, economy may be the most important factor in choosing a material. Armstrong's Cushiontone, a perforated fiberboard tile, has excellent noise-quieting value and is low in cost.

Where highest sound absorption is needed, as in the nursery, Armstrong's Arrestone is desirable. Arrestone is an incombustible metal pan material with a noise-reduction coefficient of .85.

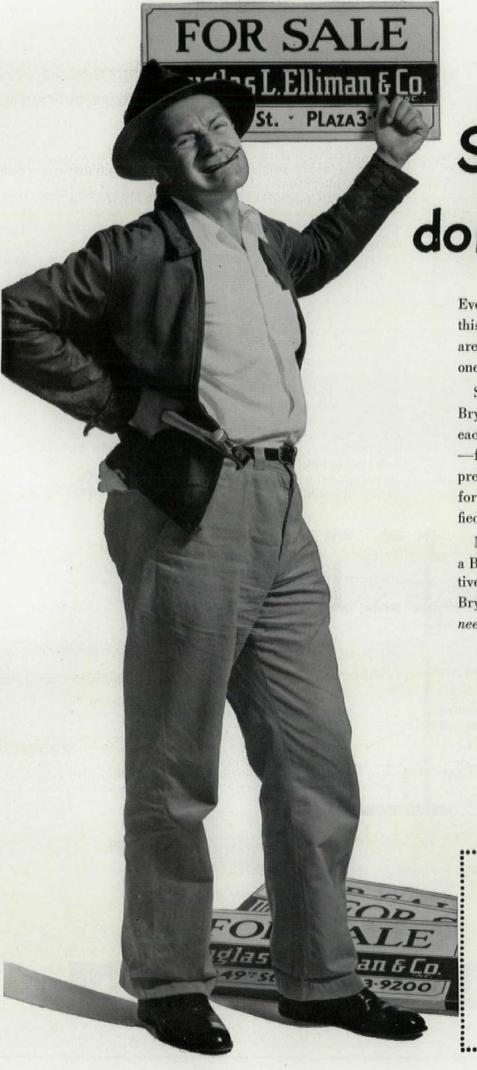
In a high-humidity area such as the kitchen, Armstrong's Corkoustic is recommended because of its natural resistance to moisture.

All the Armstrong materials have attractive white painted finishes and are easy to maintain. For full details, get in touch with your Armstrong acoustical contractor or write to Armstrong Cork Company, 5406 Stevens Street, Lancaster, Pa.



*TRADE-MARK APPLIED FOR

ARMSTRONG'S ACOUSTICAL MATERIALS



Some houses don't need signs!

Ever notice how some houses never bear a sign like this? Check up, and you will find, in many cases, they are the homes where Bryant automatic gas heating is one of the modern features.

Somehow, people sense quality. They seek out Bryant heated homes because they are confident of each being a quality house from inside out. That's why —for architect, builder and real estate man—the very presence of Bryant equipment means greater demand for any property, a quicker deal and a better satisfied client.

No matter what your heating requirements, there's a Bryant to fit your needs. Call the Bryant representative in your locality. Let him help you. Then, specify Bryant and see for yourself why some houses don't need signs!



The most complete line of gas heating equipment in the nation

Bryant Heater, Dept. 223,	
17825 St. Clair, Cleveland,	Ohio.

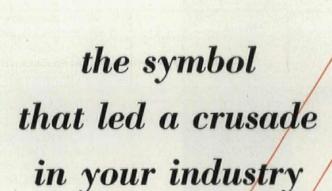
☐ Send me the new booklet that tells the Bryant story. ☐ Have your distributor call on me.

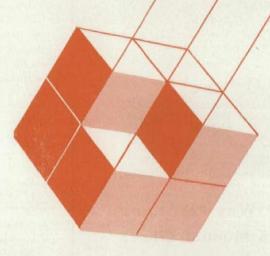


Name ____

Address

City____State





Until 1943 modular coordination was merely a fine idea. It had no real backing in the building industry.

Then SCPI-the first industry to recognize the great potential of modular coordination and support it on an industry-wide basis-announced that brick and tile would be manufactured in units of the four-inch module.

The symbol you see here dramatized this announcement and gave new meaning and great prestige to modular coordination.

Today other products are following this lead. Building materials, home furnishings, decorating and other businesses allied to the creation of a building have responded by making their products also available in modular sizes.

The result-more building, better building, faster building-at greatly reduced costs.

We can be of real help to you when you want to plan or build modular. Your regional SCPI office is an authority on modular coordination and on every use of brick and tile. We'll be pleased to have you call on us at any time.

NEW SCPI DIRECTORY: Write to your regional SCPI office for this handy reference source. Gives you names and addresses of SCPI member companies, types of brick and tile each makes, and other valuable information for users of Structural Clay Products.

regional offices to help you -Structural Clay Products Institute New Haven 10, Conn., 341 State St. New York 17, N. Y. 1949 Grand Central Terminal. Philadelphia, Pa., 1518 Walnut St.

Canton, Ohio, 306 Market Ave., No. Pittsburgh 22, Pa.

502 Benedum Trees Building.

Chicago 1, Illinois, 228 N. La Salle St.

Ames, Iowa, 1201/2 Welch Avenue.

Denver 2, Colo., 208 Kittredge Bldg.

San Francisco 5, Calif.

55 New Montgomery Street.

Seattle 1, Wash., Central Building.

Clay Products Association of the Southwest

Austin, Texas, Littlefield Building.

Oklahoma City, Okla. First National Building.

STRUCTURAL - CLAY - PRODUCTS - INSTITUTE -

MAIN OFFICE

PRODUCTS STRUCTURAL CLAY

1520 18th Street, N. W., Washington 6, D. C.

emedy for Recreational Congestion



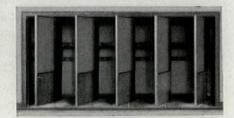


R-W DeLuxe FoldeR-Way Partitions Completely Eliminate Manual Effort!

Here you see how effectively you can segregate recreational activities with a 3-in-1 gymnasium—made possible by R-W FoldeR-Way Automatic Electric Partitions. But did you know that . . .

- ONLY R-W FoldeR-Way completely eliminates manual effort.
- ONLY R-W FoldeR-Way has completely automatic floor seals which cut off sound transmission; keep partition firmly in place without floor track; automatically compensate for high or low spots in floor.

Exclusively specified by leading School Architects, and demanded by progressive Boards of Education, R-W FoldeR-Way Partitions quickly solve the most difficult problems of space and economy.



R-W OFFERS COMPLETE LINE OF SINGLE AND MULTIPLE ACTION CLASSROOM WARDROBES . . . ALL NEW FOR 1950

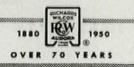
Richards-Wilcox Classroom Wardrobes, completely re-engineered, now use only modern, lighter, rustproof metals. Stronger —easier to install—custom-built to fit premises—stock sizes available at lower cost.

For complete information, contact our nearby branch office today.

Richards-Wilcox Mfg. Co.

ALANGER ION ANY BOOK THAT SLIDES

AURORA, ILLINOIS, U. S. A. + Branches in all principal cities



LETTERS

bang or a whimper depends on one thing—the architect must come much more than "half-way." By architect I mean not the architect-designer but the architect-engineer. His job is to develop a new method for building houses, from the structural (i.e. the builder's) point of view.

Our present method of using footings, foundations, interior and exterior bearing walls, must be revised, in order to make the house cost less to build—before turning it over to the architect designer.

For example, why not an aluminum skeletor to support a roof; why not curtain walls through out—adjustable, removable, expandable or even expendable—to be selected and perhaps even installed by the client himself? These are only two of the many possible suggestions, any of which can be worked out, considering all the resources and manufacturing techniques at our disposal.

The architect need not get together with the builder to realize that our present building methods date back approximately one full century. Modern design ingenuity has applied itself, for the most part, in finishes and fixtures applied to outdated structural methods. It may help him, however, to watch the builder, sometime, and study all the laborious processes which still go into an average house. (It should startle him that an intelligent carpenter with a good business sense can build a good house for \$10,000—good enough to drive Harmon Houses and even Lustron out of business!)

If architects can be induced to work for less than standard fees, the result may be that "builders' houses" will be more attractive, but it will not necessarily make them less expensive.

What can the architect do to create a house for the man who has only \$5,000 or \$6,000? It is a real challenge, and one fundamentally architectural, and 100 per cent tangible. Let the architect use his skill and imagination to make the house cost less, and, more often than not, the client and his wife, trained in the mass of available material on finishes, room layouts, kitchen arrangements, can realize the home they want, and need.

The demand is tremendous, and I don't believe it has been met, or even faced, since the famous "one third of a nation" speech. Where, but in a democracy, could we be more free, or better equipped to meet it—and make our system more than ever worth fighting for? And incidentally—pull the profession out of a very serious rut?

ROBERT HENRI MUTRUX, Architect Wilton, Conn.

Forum:

Everything you have said about the architect and the merchant builder is true. . . . The architects will have to do some modernizing of their thinking and the builders will have to want the architects' services to the point of paying a fair fee.

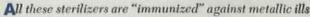
I sincerely hope Mr. Coogan and Mr. Walker (Continued on page 38)

Do you know this important fact about Scanlan-Morris sterilizers?

MONEL PROTECTION. Important features of this Scanlan-Morris cylindrical pressure sterilizer are its inner shell and steam jacket, its sturdy trays and racks. Made of Monel, they resist fatigue and

LONG-LASTING SOURCE for sterile hot and cold water. These sterilizers have seamless tanks of Monel. Corrosion-resistant all the way through, Monel never needs painting, coating or costly periodic maintenance.

ADAPTABLE. Made with body, cover and trays of rugged, corrosion-resistant Monel, models of Scanlan-Morris instrument sterilizers are available for heating by direct steam, gas, electricity — and even kerosene. This one is heated by



They are designed to withstand heat, pressure, fatigue, water, steam, and hospital solutions.

They are built to give your hospital clients dependable, 24-hour-a-day service year in, year out.

They are made of MONEL®.

What this means

In Monel, you have a solid, corrosion-resisting Nickel Alloy. Being solid, it protects sterilizers for life against chipping, crazing or peeling.

The protection hospitals get from Monel never ends because a surface becomes marred or wears away the "surface" of Monel actually extends through the full thickness of the metal.

What's more, Monel is stronger and tougher than structural steel. It is hard and smooth. It resists gouging. Even the heaviest loads of bulky, keenedged surgical instruments won't damage Monel's attractive satiny finish.

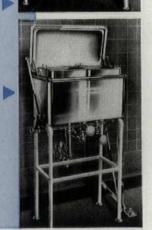
Maintaining sanitation

Monel is easy to keep bright and shining. Most of the time, plain soap and warm water will do the job. But even mildly abrasive cleansers or detergents can safely be used on Monel. Remember, there's no scrubbing away Monel's good looks-they're permanent.

Monel construction is now available in Scanlan-Morris cylindrical pressure-type surgical supply sterilizers, instrument sterilizers, solution sterilizers, and water sterilizers. It is standard construction material in Scanlan-Morris non-pressure boiling-type instrument and utensil sterilizers.

Write for details

For full information about the various types of Scanlan-Morris sterilizers that bring your hospital clients all the solid advantages of Monel, write Ohio Chemical & SURGICAL EQUIPMENT Co., Madison 10, Wisconsin.



THE INTERNATIONAL NICKEL COMPANY, INC. 67 Wall Street, New York 5, N. Y.

... ALWAYS A WISE CHOICE FOR HOSPITAL EQUIPMENT



Counter-attractions:

More and more designers are specifying MICARTA hi-pressure plastic laminate—to make stores more attractive, to make kitchens more saleable, bathrooms more beautiful. They want, of course, to give their clients a top material that really resists attack, that dares you to stain, dent, crack, chip or scratch it. They know the wonderful quality standards maintained by Westinghouse. And, in addition, they are particularly attracted by these remarkable Micarta advantages:

Micarta's wonderful Colors and Truwoods

Micarta offers 42 colors — 16 solid colors, 5 Linens, 7 Foams, 9 Mother of Pearls and 5 Truwoods — a type to fit any decorative scheme. Especially interesting are the unique Decorator Colors, 9 pastels selected by a panel of the country's leading architects — superlatively smart solid colors, unique in the field.

Micarta's new Pre-bonded-to-plywood Sizes

Micarta's exceptionally wide range of sizes offers unusual opportunities for economy. Your fabricator can almost always find a size from which he can cut with less waste. The 1/16'' sheets are available in 10 sizes. And now there are four sizes in Micarta Pre-bonded to exterior grade Weldwood Plywood -24'' x 96", 30" x 60", 30" x 96", 48" x 96" in $\frac{7}{8}$ " thickness. These panels can be cut, trimmed and installed by any carpenter without the use of a press. Remember this when just replacing a top, designing a built-in table, etc.

Micarta's true-satin finish and Beautymask

Typical of Micarta's extra quality features are its *true* finishes and method of protecting them. Both the satin and glossy finishes are built-in, not achieved through brushing or buffing. And, to insure a perfect installation, the "Beautymask", a strong manila sheet, protects the finish through shipping, storage and handling.

Discover MICARTA yourself!

Send for Free Sample



WESTINGHOUSE

and sold for decorative purposes only by

UNITED STATES PLYWOOD CORPORATION and U. S .- MENGEL PLYWOODS, INC.

55 West 44th Street, New York 18, N. Y.

Please send me free sample and full information on MICARTA.

NAME

COMPANY

ADDRESS

CITY

STATE

UNITED STATES PLYWOOD CORPORATION



Bundyweld . . . boon for better radiant heating

TOO BAD Bundyweld wasn't on the market in 1784. For James Watt would have realized *then*, as designers and builders do *now*, that Bundyweld is ideal for radiant heating panel installations.

It's the only tubing of its kind . . . double-walled from a single strip, copper-bonded throughout. Lightweight and ductile, it's still rugged—musts for easy, efficient installations. More, its double walls are thinner, assuring maximum heat conductivity along with added strength.

Soldering or brazing is a snap; once grids are joined, they can be quickly installed without fear of denting or crushing normally encountered in using softer materials. No kid gloves needed when you handle this tubing!

Available immediately in any quantity, Bundyweld is shipped ready for bending right on the job. From the time it arrives on the building site, this miracle tubing of industry racks up real savings in time, labor and costs.

No wonder today's heating experts are hot on Bundyweld. Chances are you will be, too, when you get the whole story. Write for the new Radiant Heating Brochure. Bundy Tubing Company, Detroit 14, Mich.

Bundyweld Tubing

DOUBLE-WALLED FROM A SINGLE STRIP

WHY BUNDYWELD IS BETTER TUBING



Bundyweld starts as a single strip of basic metal, coated with a bonding metal. Then it's



twice around laterally into a tube of uniform thickness, and



passed through a furnace. Bonding metal fuses with basic metal, presto—



Bundyweld...
double-walled and
brazed through 360°



SIZES UP TO %" O.D.

Bundy Tubing Distributors and Representatives: Cambridge 42, Mass.: Austin-Hastings Co., Inc., 226 Binney St.

Chattanooga 2, Tenn.: Peirson-Deakins Co., 823-824 Chattanooga Bank Bldg.

Chicago 32, Ill.: Lapham-Hickey Co., 3333 W. 47th Place

Elizabeth, New Jersey: A. B. Murray Co., Inc., Post Office Box 476

Philadelphia 3, Penn.: Rutan & Co., 1404 Architects Bidg.

San Francisco 10, Calif.: Pacific Metals Co., 11d., 3100 19th St.

Seattle 4, Wash.: Eagle Metals Co., 3628 E. Marginal Way Toronto 5, Ontario, Canada: Alloy Metal Sales, Ltd., 881 Bay St.

Bundyweld nickel and Monel tubing is sold by distributors of nickel and nickel and nickel and nickel and sold lives in principal cities.

There's something SPECIAL about bathrooms when accessories are HALL-M

In Hall-Mack's complete selection of bathroom accessories you'll find unique special accessories like these - made to add the final touch of convenience and appearance to any bathroom...



THIS BEAUTIFUL Concealed Lavatory Unit is a perfect companion for all other Hall-Mack Accessories. Soap, tumbler and toothbrush are ready at the touch of a

finger-yet smartly con-cealed when not in use. These bathroom necessities are mounted on a revolving panel, and only a polished chrome surface flush with the bathroom wall is visible when the unit is closed ...

Sketch show-





ence when needed.



LETTERS

will follow through and see that a satisfacto schedule is worked out.

> WILLIAM GLENN BALCH, Archite Los Angeles, Calif.

Forum:

Very definitely, I think that most of the loc builders are interested primarily in getting a col tract with very low expense for plans, and the are not appreciative of the benefits of having better design for what they build. This ver definitely applies to the very low-cost houses. happens that most builders do not belong to the Contractors' Association, but no doubt they coul be influenced by articles in the various builder magazines. Apparently, also, mortgage lendin companies are not interested in the improvemen of design of these houses, which locally will cos up to \$25,000 or more. . . .

> L. T. BENGTSON, Architec Charleston, W. Va.

Forum:

I congratulate you on a very fine constructiv piece of work.

> HART WOOD, Architec Honolulu, Hawaii

Forum:

. . . For a number of years our younger archi tects, graduates of this school, have done out standing work along the lines suggested in you

Their work has been continuous. Develop ments representing from 80 to 200 units each seem to appear every few weeks in this commu nity. I believe I am conservative in saying tha at least 60 per cent of such work is being donby capable young architects who are members o the AIA and whose commissions are both gener ous and appropriate.

Within the college, courses in housing and in city planning require full and complete under standing of the practices and regulations of the FHA. This includes their requirements concern ing financing as well as concerning construc tion. . . .

WILLIAM WARD WATKIN, FAIL Professor of Architecture Rice Institute Houston, Tex.

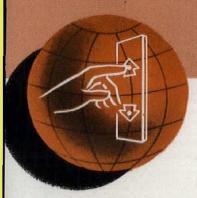
Forum:

It seems tragic that we have waited so long to undertake a serious consideration of the archi tects' relation to the house building industry Since we cannot begin sooner, I believe we car all hope that the Institute delays no further in coming to grips with this problem.

> ARTHUR B. GALLION, Dean School of Architecture University of Southern California Los Angeles, Calif. (Continued on page 42)

Kaufmann Department Store Pittsburgh, Penna.





12 AUTOTRONIC ELEVATORS

replace 16 manually operated cars

4 reclaimed hoistways to be used for air conditioning

A great department store like Kaufmann's is an ever-changing world of activity. No two shopping days are exactly alike. A daily customer count ranges from 25,000 to 90,000. An hourly count, which often reaches 20,000, varies endlessly—from floor to floor! This means that elevator service in the main passenger bank must be a coordinated part of the complete vertical transportation system. It must be extremely flexible if it is to be kept traffic-timed to the elevator demands of shoppers in a store with 494,000 square feet of sales area from the basement to the 11th floor; 236,000 square feet of service area; and plans for converting 12th floor service space into a sales area.

Difficult? Not with AUTOTRONIC—Otis traffic-timed elevatoring. In fact, at Kaufmann's, 12 AUTOTRONIC elevators will handle passengers far more efficiently than the 16 manually operated cars they replace. AUTOTRONIC supervision will keep two banks of 6 cars operating as coordinated groups. Scheduling and dispatching will be traffic-timed—automatically. Passenger waiting time will be measured and reduced—electronically. Rides will be faster, smoother. Flexibility of service? The 6 basic traffic programs of AUTOTRONIC elevatoring will keep elevator service timed to traffic throughout the entire store day at Kaufmann's.

We'll be glad to tell you how AUTOTRONIC elevatoring—which is dramatized by Otis Electronic <u>Touch</u> Buttons—can handle any daily traffic pattern, regardless of its complexity, with a minimum number of cars. In NEW or MODERNIZED office buildings, hotels, hospitals, banks and department stores. Otis Elevator Company, 260 11th Avenue, New York 1, N. Y.



AUTOTRONIC

Traffic-Timed

ELEVATORING

BUDGET HOMES, INC. HAVE FOUND THE WAY TO SELL WHAT THEY BUILD!



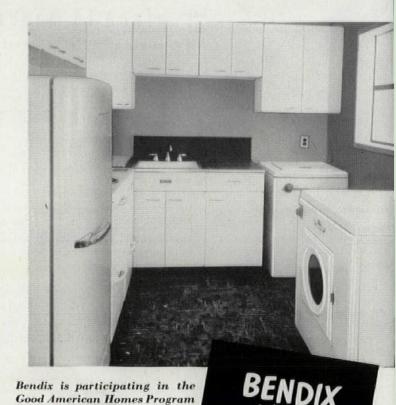
Bendix Washers and Dryers installed in combination kitchen-utility rooms save space, make these low-priced homes more desirable.

Budget Homes, Inc.—and the mortgage loan firm of Carroll, Hedland, and Associates—have set up this big "Dura-Home" development at Mountlake Terrace, near Seattle, Washington. These \$4999 2-bedroom houses are selling like hotcakes—and the reasons are easy to find.

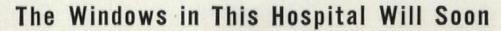
They offer value—big value, even in today's keen building competition. And a prime selling point to women is the amazingly compact workless kitchen-utility room combination, featuring . . .

... a Bendix Economat automatic Washer and Bendix automatic Dryer—right where the housewife finds them handiest. A complete, planned home laundry, occupying only 10 square feet of space. Eliminating set tubs, drying yard, separate utility room or basement. And available on a package mortgage.

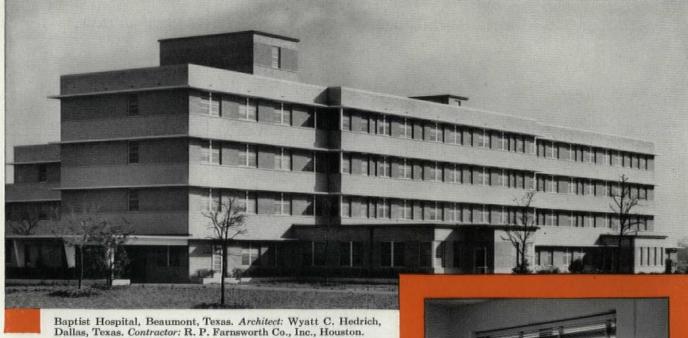
Many other "Look-Ahead Builders", knowing that the honeymoon is over, are searching for new ways to make buyers out of lookers. The fact that so many of them—such as Budget Homes, Inc.—have chosen Bendix Home Laundry equipment as a most appealing selling point, should tell you that the Bendix builder story is worth looking into—whether you build ten homes or a thousand. Ask your nearest Bendix distributor about it—or write us for his name.



BENDIX HOME APPLIANCES, INC., SOUTH BEND 24, INDIANA



PAY FOR THEMSELVES!

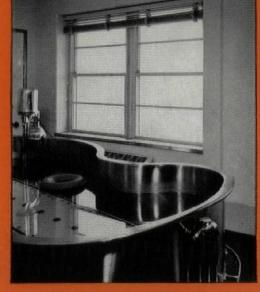


Yes, the ADLAKE Aluminum Windows in the Baptist Hospital, Beaumont, Texas, will pay for themselves—by

Hospital, Beaumont, Texas, will pay for themselves—by eliminating all maintenance except routine washing. What's more, these windows will last as long as the hospital itself!

Only ADLAKE Windows have the combination of weather stripping and patented serrated guides that assures minimum air infiltration and absolute finger-tip control. And ADLAKE Windows never warp, rot, rattle, stick or swell. They retain their smart good looks and easy operation for the life of the building.

For full information on how addake Aluminum Windows can give you worry-free, no-maintenance service, drop a post card to The Adams & Westlake Company, 1101 N. Michigan, Elkhart, Indiana. No obligation, of course.



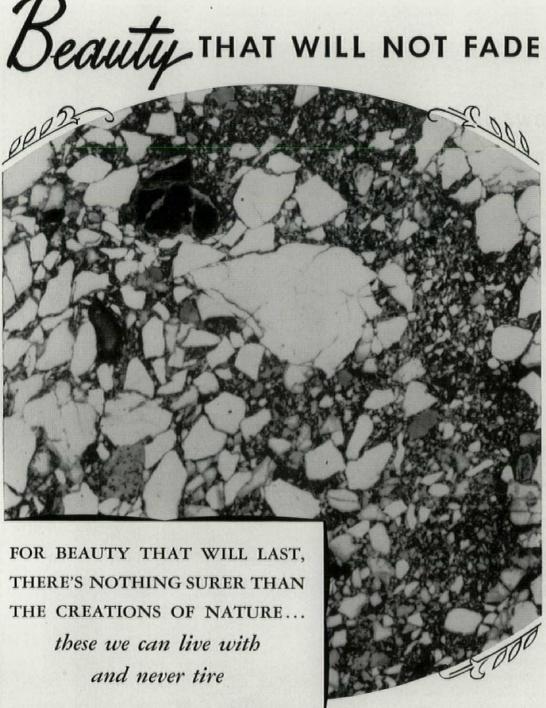
Adams & Westlake



ADLAKE ALUMINUM WINDOWS HAVE THESE "PLUS" FEATURES

- Minimum Air Infiltration
- No Warp, Rot, Rattle, Stick
- Ease of Installation
- Finger-tip Control
- No Painting or Maintenance

LETTERS



DI-LON Wallpaper Extraordinary

by capturing this beauty in authentic reproductions of pattern and color, adds this new beauty to home and office. Faithful reproductions of marbles, wood grains, leathers and other unusual subjects. And, DI-LON is sunfast and washable. Ideal for both traditional and modern motifs.

Write for samples and name of nearest supplier.



1700 LONDON ROAD . CLEVELAND 12, OHIO

Forum:

Construction being the individualistic thin that it is, I doubt if any organization can spea for the majority of its members. The merchan builders and material interests have for man years gone to great lengths to sell the public o the idea that an architect is not necessary even o larger work and have also confused the public b offering services of unregistered people as arch tects against the law in most states. The attempt of a legitimate architect to combat the efforts of these powerful groups has been quite hopeles and has received little support from any sul stantial quarter.

The conception that plans can be produced a next to nothing in cost is fairly prevalent. quote from a letter written by a regional directo of one of our most important federal groups i the problem of providing housing-'It strikes m that prospective builders are not required to in vest very much money to provide the information required and no doubt if they have been on a operative basis beforehand, they are simply repeating their previous efforts. New builders i the field undoubtedly have a minor investment t make in plans and specifications. That is part of the wear and tear on doing the job.' The infor mation required was completed plans and speci fications. At that point I quit playing Don Quixote with the housing program. . . .

I agree that the builder needs the architect but from my experience he has never been read to meet him half way. If he now is ready, le him come that half way and he will find an ex cellent partner.

> M. R. BECKSTROM, Architec Moline, Ill.

I am heartily in accord with your sentiments It is long overdue. I certainly hope something comes of it.

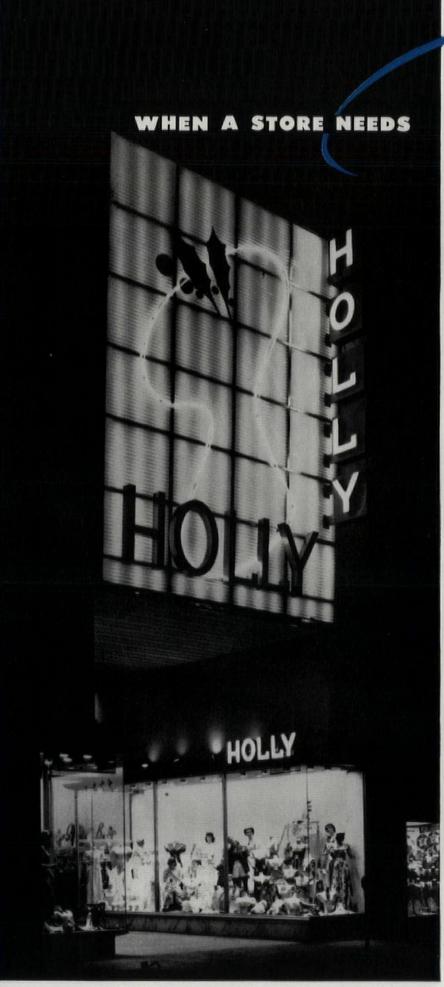
> WILLIAM J. FOX, JR., Architec Fox & Ballas Missoula, Mont.

Forum:

Like most architects, from time to time in my career I have dealt with merchant builders in an architectural capacity. The terms under which worked varied with the conditions as did the suc cess of the operation both from their point o view and from mine. It is a field too little par ticipated in by architects, the reasons lying or both sides of the fence.

Certainly, the architectural profession should cooperate with the merchant builders to the mu tual advantage of both and to the improvement of the housing of those people who live in "ready made" homes. The relationship of architect and builder for this type of building certainly needs thorough study by both our profession and the Builders Association. Such a study entered into with an open mind by both parties should result

(Continued on page 46)



Designed by Morris Lapidus of New York, this 20-by-25-foot luminous store-front in Baton Rouge, La., was created by backlighting large panels of corrugated white translucent PLEXIGLAS. The interesting pattern is achieved by means of neon tubing behind the facade. Red and green PLEXIGLAS is used for holly leaves and berries mounted against the glowing acrylic background. Fabricated by Plastics Productions, Inc., New Orleans, La. Installed by Lamarr Advertising Agency, Baton Rouge, La.

PLEXIGLAS is a trade-mark, Reg. U. S. Pat. Off. and in principal foreign countries.

Ersonality.

PLEXIGLAS comes to the front

"Make my store-front different—distinctive," says your client. And PLEXIGLAS makes this tough assignment easy. Clear or in gem-like colors, smooth surfaced, corrugated or artistically patterned—adaptable PLEXIGLAS offers an almost limitless range of design possibilities.

Backlighted PLEXIGLAS gives you completely luminous letters and facades—rich with light and color, yet minus the confusion of visible light sources. PLEXIGLAS permits textured and three-dimensional effects—ranging from the delicate and graceful to the massive and dignified. And with all this, PLEXIGLAS saves on erection and maintenance costs, too.

Lightness and strength mean easy erection—with fewer, lighter supporting members. This sparkling outdoor plastic resists age, weather and hard blows. Indoors or outdoors, Plexiglas represents a unique combination of beauty and durability.

WRITE FOR THIS NEW BOOKLET

For your personal file we've reserved a copy of our newest booklet, "PLEXICLAS... for Modern Store Fronts." Use your business letterhead to tell us where to send it.

Canadian Distributor: Crystal Glass & Plastics, Ltd., 282 St. Helens Avenue, Toronto, Ont.



CHEMICALS



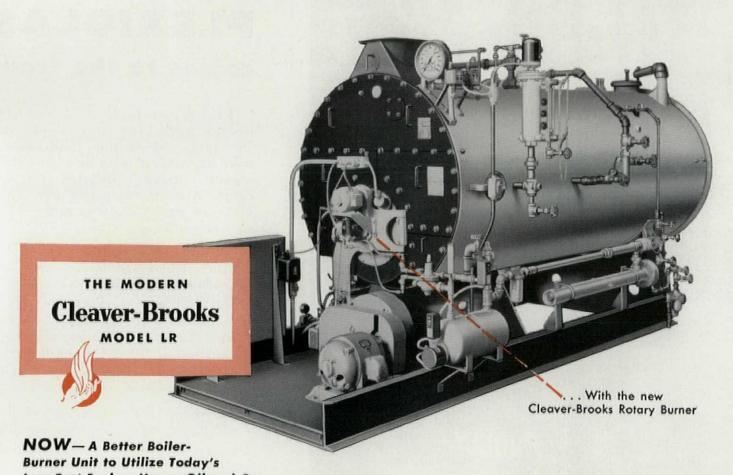
FOR INDUSTRY

ROHM & HAAS

WASHINGTON SQUARE, PHILADELPHIA 5, PA.

Representatives in principal foreign countries

FOR PRODUCING STEAM



Low-Cost Fuels — Heavy Oil and Gas The Cleaver-Brooks Model LR is a "trailblazer" in modern self-contained boiler design and construction. It makes more effective use of today's low-cost fuels, (heavy oils and gas), and you are assured of better boiler performance.

A Brief List of Notable Features:

- the new Cleaver-Brooks rotary burner — simple — compact — precision ma-chined — perfect mechanical balance — fully automatic — provides unprecedent-ed flexibility in burning heavy fuel oils or industrial gases.
- single low-speed, low-power consumption blower furnishes both primary and secondary air for combustion—less weight

and space requirements — reduction in sound levels.

- totally enclosed, drip and dust-proof panel for all major electrical controls.

- electronic combustion safety devices, dual low water cutoffs - are standard equipment.

-simplified design of combination gas oil burner permits change-over from oil to gas or vice versa in less than a minute.

improved design of boiler furnace and liberal heating surfaces provide greatest economy with all fuels.

boilers of all-welded construction — meet standards of A.S.M.E. boiler code and leading underwriters — burner ap-

proved by recognized national agencies.

The Cleaver-Brooks Model LR selfcontained boilers are of a highly devel-oped four-pass fire tube design — tested and proved by factory and field experience on several thousand boilers of this type.

Write for complete specifications, dimension data, firing rates.

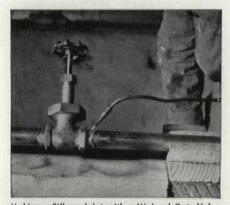
CLEAVER-BROOKS COMPANY 333 EAST KEEFE AVENUE MILWAUKEE 12, WISCONSIN

Now Ready: Bulletin SG 142 con-tains detailed data and descrip-tion of the MODEL LR. Send for your copy today!



The UN Secretariat is a TRULY MODERN building

... SILBRAZ® joints are installed



Making a Silbraz joint with a Walseal Gate Valve at UN, work being done at bench.



Installing a Walseal fitting at UN, on location; note operator progressively heats small section of the fitting

New UN Secretariat Building, N. Y. C. Syska and Hennessy, Inc., Consulting Engrs. Fuller-Turner-Walsh-Slattery, Inc., General Contractor Eugene Duklauer, Inc., Plumbing Contractor Almirall & Company, Inc., Heating Contractor



Architects and builders know that it takes modern building components to make a modern building. That's why the first skyscraper erected on the site of the United Nations' buildings has brass and copper pipe runs joined with Silbraz joints—the modern way of joining brass or copper pipe or Type B copper tubing. Silbraz joints are silver brazed—not soldered or threaded—and are stronger than the pipe itself. They are leakproof, permanent, and will not creep or pull apart under any condition which the pipe or tubing can withstand. They literally form "one-piece pipelines" that save money by eliminating leaky

connections, costly maintenance, and repairs.

Walseal® Valves and Fittings for making Silbraz Joints

The Walworth Company manufactures a complete line of Walseal Valves, Fittings, and Flanges for making Silbraz joints. The Walseal material used in the United Nations building was furnished by Glauber, Inc., and Asco Supply Company, Inc., both of New York City.

For further information regarding Walseal Valves, Fittings, and Flanges for making Silbraz joints, see your nearest Walworth distributor, or write for Circular 84B.



WALWORTH valves and fittings

60 EAST 42nd STREET, NEW YORK 17, N. Y.

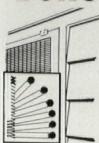
DISTRIBUTORS IN PRINCIPAL CENTERS THROUGHOUT THE WORLD

ARCHITECTURALLY SOUND! functional! efficient! attractive!

KOOLSHADE*

SUNSCREEN

BORG-WARNER



100 square feet of KoolShade sunscreen equals 1 ton of air conditioning. KoolShade is like a miniature venetian blind of woven bronze, with louvers set at a 17° angle to block up to 90% of the sun's heat rays outside the window... keeps rooms up to 15° cooler; light comes in; heat, glare and insects stay out.

3 in 1 installation

Eliminates Awnings

KoolShade is up to 4 times more efficient than awnings ... no canvas to rot, clear vision, no fire hazard, no projections to interfere with architectural lines.



Eliminates Insect Screen

KoolShade repels insects equal to ordinary insect screen. Made of the finest pre-oxidized bronze, it ruggedly resists the weather . . . gives years of service.



Eliminates Venetian Blinds

KoolShade is as much as 7 times more efficient than venetian blinds in blocking sun's heat from rooms . . . no adjustments to clean or replace . . . complete visibility always.



KoolShade is available in extruded aluminum or wood framing. Insist on genuine KoolShade in Ingersoll frames—do not accept substitutes.

	MARIE	a.		1
No.	=	-	18	1
	- 4.E	Tall .	100	
信			100	1
		, ,	100	
1		-lit		
1	-	Labora		

*Trademark Registered

Ingersoll KoolShade Storm-Shade Div. BORG-WARNER CORP., DEPT. AF-6 321 Plymouth Court, Chicago 4, Ill.

Please send me free of charge the new architectural booklet explaining the advantages of KoolShade and details of Ingersoll framing methods.

Name	
Address	
CityZone	State

LETTERS

in the promulgation of a scale of fees together with a schedule of services required for this type of work.

Personally, I would look with great interest on anything that might come out of such a conference for I feel that it would be decidedly to the interests of the architects and the merchant builders to get together on this vital problem. . . .

> RICHARD A. MORSE, Architect Tucson, Ariz.

Forum:

I am indeed grateful to you for bringing up this very important problem.

With the help and cooperation of Ralph Walker, our president, we hope that some solution will soon be found.

NICHOLAS A. KABUSH, Architect Spokane, Wash.

Forum:

Drawing a parallel between the skills of building craftsmen of the past, who were able to shape the materials and construct them correctly without special details for every job, and the skillfully mass-produced building parts of the present and future, assembled by specially trained crews, it should be possible for the architect to be again a design coordinator in house building.

The architect's work per house would be considerably reduced by the elimination of details and specifications on parts furnished by specialized trades and the supervision of their execution taken over by the builder whose quality and performance would be controlled by the natural competition of business. The fee for architectural services would be accordingly less per unit, but a considerably greater volume would result in an increase of the architect's participation over present services.

It is realized that such working agreement between architect and builder will have to be developed gradually and adjusted through experience. A clean-cut division of architect's and builder's services and responsibilities is not always possible because various building trades and manufacturers are at different stages of evolution from the manual to the machine production method, but I believe that a better understanding should be given every possible chance.

> Albert Frey, Architect Clark & Frey Palm Springs, Calif.

Forum:

I hope the meeting will find a satisfactory answer to a most important problem.

PAUL ATCHISON, President Colorado Chapter, AIA Denver, Colo.

Forum

In an attempt to accomplish the intent of your editorial, this office has designed several two and (Continued on page 52)

Industrial Sound Systems

Sound systems are necessities in modern industry . . . save valuable time, eliminate confusion. Wired music systems are morale-builders, production stimulants to workers.

For every industrial need, Altec designs and builds the finest, most complete line of audio components... microphones, amplifiers, loudspeakers. Systems may be for use with radio, phonograph, tape recording or conventional speech input. And to stand behind this integrated, highest quality audio line, Altec offers engineering service, installation and maintenance from coast to coast.

Let the Altec engineering staff help you solve your sound problems. An Altec representative will consult with you at your request without charge. Or simply write for complete information about Altec industrial sound systems.

DEALERS EVERYWHERE



1161 N. VINE ST., HOLLYWOOD 38, CALIFORNIA 161 SIXTH AVENUE, NEW YORK 13, NEW YORK

Again the choice for faster, easier, low-cost erection...



Builders of the large, low-cost Shirley-Duke 200-building project specified Stran-Steel Nailable Floor Joists throughout for quicker erection, quicker occupancy—lower costs. Rents start at \$59.75, go to \$72.50 for two-bedroom unit.

Use of Stran-Steel nailable floor joists throughout suburban Washington's 2106-unit Shirley-Duke apartment project speeded erection time...permitted quicker occupancy...helped bring in rents faster.

Cost of installation was less than usual because no special construction personnel was needed. This saving in manpower and time was further augmented by the patented nailing groove found in Stran-Steel framing members, and because of its sag-proof, rot-proof and fire-proof qualities—advantages which allow low insurance rates and assure minimum maintenance costs.

Stran-Steel nailable floor joists bring to the Shirley-Duke project *proved* quality, strength and durability ... keep expenses down, help make possible the low rentals which feature this development.

If you are planning a similar multi-unit garden-type apartment project, or any other new residential, commercial or industrial construction, it will pay you to investigate the proved advantages and economies of Stran-Steel nailable floor joists.

Joist depths and gauges available for normal span and load requirements.



GREAT LAKES STEEL CORPORATION

STRAN-STEEL DIVISION • ECORSE, DETROIT 29, MICHIGAN UNIT OF NATIONAL STEEL CORPORATION



Bright idea for a brighter wall

When you select wall tile, you naturally want it to have the greatest appeal possible for the ultimate user. You want it to provide colorful beauty, strength and durability, economy. In a word, you want an extra pleasing product at an extra pleasant price. That's why it's wise to specify wall tile made with Weirzin, a very special steel produced to make good things better.

Weirzin, the top-quality electrolytic zinc coated steel that's noted for its great strength and easy workability, serves in two ways to enhance the value of products in which it is used. First, the metal itself is highly resistant to rust and corrosion. Second, its surface takes enamels, lacquers, or paint, and holds on to them with extraordinary tenacity. The finish is bound to last, because it's bonded tightly to the metal.

Leading manufacturers of household appliances, lighting fixtures, wall tile, kitchen cabinets, and other products, use Weirzin to make good products better. It will pay you to investigate the advantages of Weirzin in the products you specify.

WEIRTON STEEL CO.

WEIRTON, W. VA., Sales Offices in Principal Cities
Division of NATIONAL STEEL CORPORATION, Executive Offices, Pittsburgh, Pennsylvania

Weirzin Electrolytic Zinc Coated Sheets and Strip . Weirite Tin Plate and Tin Mill Products . Hot-Rolled and Cold-Rolled Sheets and Strip . High-Carbon Cold-Rolled Spring Steel



Above: Manhattan Room, Hotel New Yorker, N. Y. Bar front covered with Kalistron of special design in black and two shades of gold. Special green Kalistron used on banquettes, side chairs, Table tops of Micarta Truwood, Designer, Walter M. Ballard Corp., N. Y.

WHY THIS BEAUTIFUL ROOM

will stay beautiful . . .

When vulnerable surfaces are covered with Kalistron, they will stay colorful and unmarred for years. For Kalistron color is permanently protected from surface wear—fused to underside of clear vinyl sheeting. Kalistron is scuff-resistant; scratch-and spot-resistant; flame-resistant; can't chip, crack or peel; waterproof; easily cleaned with damp cloth; can't shrink; drapes beautifully; ideal for upholstering; easily bonded to surfaces. It won the latest Modern Plastics Award

for furniture and interior decorating material. 30 standard colors; special shades matched.

Coupon below will bring sample of Kalistron, plus top-quality nail-file . . . free. See if you can injure Kalistron even with this file!



U. S. Plyw	ood Corp.,	Dept.	F-11
55 West 44	th St., New	York	18

Please send me FREE Nail-File Test (swatch of Kalistron plus actual nail-file).

NAME_____ADDRESS

Distributed by: U.S. PLYWOOD CORPORATION, N.Y.C. and by: DECO SALES, 408 Freylinghuysen Ave., Newark, N. J.

Color fused to underside of transparent vinyl sheet . . . backed by flocking

TIME to get them on your side

0

0

0

0

0

0

0

0

0

/ SPECIAL TO ARCHITECTURAL FORUM READERS /

HAVE POLLED 1,547 COMMERCIAL CUSTOMERS AND DEALERS OF

PITTSBURGH PLATE GLASS INCLUDING... ARCHITECTS ... GLASS

CONTRACTORS ... BUYERS OF GLASS STORE FRONTS ... PAINTING

CONTRACTORS AND DEALERS ... BUYERS OF PPG COLOR DYNAMICS

FOR COMMERCIAL USE.

RESULTS SHOW--

ONE OUT OF THREE READ TIME REGULARLY/

TIME RECEIVES MORE "FIRST CHOICE" VOTES THAN ANY OTHER

MAGAZINE.

0

0

0

0

0

0

0

0

0

0

/CONSUMER INFORMATION KOMING/

CHECKED GROUPS ACTIVELY INTERESTED IN IMPROVING HOMES--

BUYERS OF CUSTOM RESIDENTIAL MIRRORS AND

"TWINDOW" INSULATING WINDOWS.

REPRESENTATIVE BUYERS OF A & M KARAGHEUSIAN RUGS.

HOME OWNERS WHO HAVE BOUGHT CARRIER AIR-CONDITIONING.

ALL STATED /TIME IS "FIRST CHOICE" MAGAZINE/

CONFIRMS FACT THAT HIGHER INCOME FAMILIES

ARE TOP PROSPECTS FOR SALE OF BUILDING MATERIALS ...

HOUSEHOLD FURNISHINGS AND EQUIPMENT.

/SPECIAL FLASH/

DUN & BRADSTREET HAS JUST SURVEYED TIME SUBSCRIBER

FAMILIES ... AVERAGE INCOME NOW \$9,535 -- TWICE

NATION,S AVERAGE.

ADD NOTE ON BANKS ..

RECENT SURVEY OF PRESIDENTS OF LEADING AMERICAN

BANKS SHOWS THEY ALSO VOTE TIME THEIR "FIRST CHOICE"

MAGAZINE.

/FOR YOUR ACTION/

WATCH THIS SPACE NEXT MONTH FOR MORE INFORMATION ON

YOUR BEST CUSTOMERS OR WRITE, WIRE, PHONE .. TIME

THOMAS E. RYAN, TIME RESEARCH

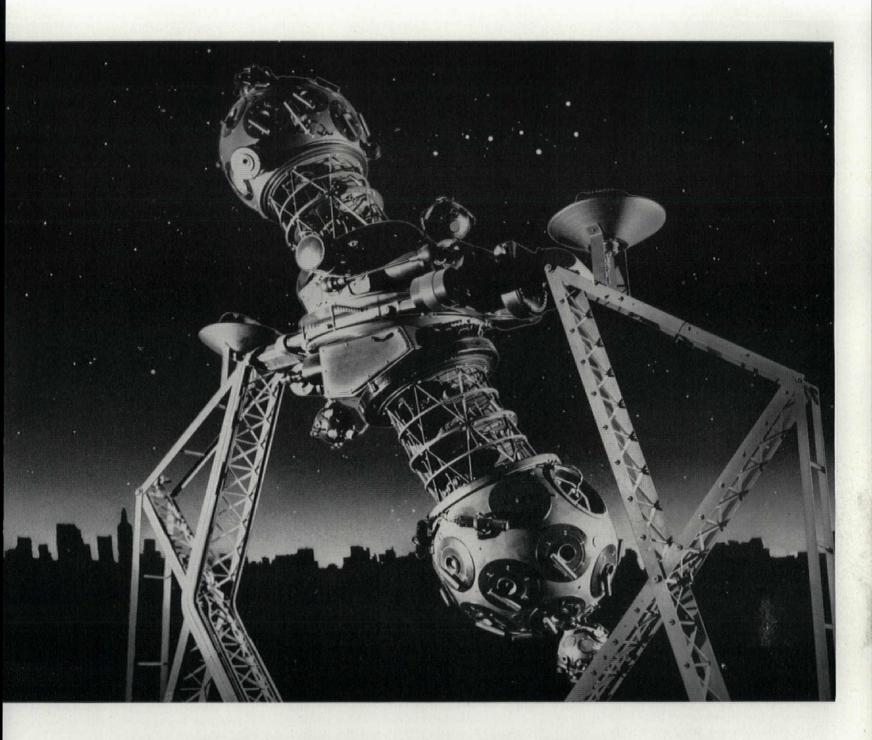
9 ROCKEFELLER PLAZA, NEW YORK 20, N. Y.DEPARTMENT

The commercial outlets and dealers who sell your product to the public.

The consumers who do more home buying and remodeling than most remodeling than most people. Plus the bankers who approve mortgage and who approve mortgage and modernization loans.

To get them on your side reach them in their own first-choice magazine...

The Weekly Newsmagazine



AIR-CONDITIONED TRIPS TO MARS...50¢

Hundreds of "passengers" each performance take a quick swing around the solar system in one of America's great planetariums. And though the illusion of outdoors is perfect, heat and ventilation in the crowded auditorium became a pestiferous problem.

So Trane equipment was brought into the picture.

Now starry-eyed audiences view the sweep of the heavens (as projected by the composite stereopticon shown above) in fresh, out-doorsy coolness. The Trane air-conditioning system cools, removes excess humidity, and provides outside ventilation. Your air-conditioning problem may not be astronomical. But, whatever it is, remember that Trane knows air. How to warm it, cool it, clean it, move it, dry it or humidify it. Your local Trane office will be glad to work with you on any of your projects.

Heat for big buildings or modern homes. There's a better way to heat any size structure—with Trane Convectors. Quick-heating, space-saving convectors team up with any steam or hot water system, to provide better heat distribution and more comfort at low cost.

If you have a problem in air-conditioning or heating, write for free booklet "Choose Your Weather"—a non-technical illustrated presentation of many types of Trane installations.



THETRANE COMPANY, LA CROSSE, WISCONSIN EASTERN MFG. DIVISION . SCRANTON, PA. TRANE COMPANY OF CANADA, LTD., TORONTO

MANUFACTURING ENGINEERS OF HEATING AND AIR CONDITIONING EQUIPMENT . OFFICES IN 80 CITIES



LETTERS

three bedroom frame houses of 792 and 864 sq. ft., plus attached garage. With minor changes in exterior design, and a judicious variation of exterior materials and color, a whole block of these houses has been built without one remark offered to the effect that they all look alike, yet this development has an entity born of a family resemblance, and the houses are being snapped up as fast as built.

The architect's fee, per house, is very modest, quantity making up the difference in the long run.

And everyone, architects, builder, and owner is thoroughly happy. What more need be said. It

> EDWARD L. HUBBELL, Architect Denver, Colo.

Forum:

For some reason, which I do not quite understand, very few architects are interested in housing design. This may be, perhaps, because of the lack of emphasis on the part of the architectural schools, as compared to the stress which they place on other kinds of architectural work, I think it is also the result of the fact that very few architects are willing to take the time and the pains to train themselves in designing homes of good style and utility which the average American family can afford to buy. The merchant builders are the only ones who have made an attempt to do this job. I will agree that they have not always done as good a job as they might have. However, in judging them, it is necessary to keep in mind the relationship of design to ability to pay.

I for one believe that a well-designed and attractive house and the ability to pay of the average American family can easily be reconciled if builders and architects will take the pains to do so.

> RODNEY M. LOCKWOOD, Builder Past President, NAHB Detroit, Mich.

AUTHOR ALLEN

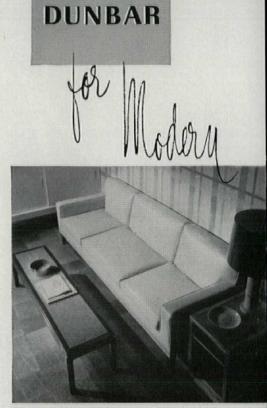
Forum:

I have been reading Joe Hudnut's Architecture and the Spirit of Man and it pleased me immensely, for two reasons. In the first place, it is a beautiful job of writing and it makes more sense than any other book on architecture I have read in some years-since Eliel Saarinen's The City, to be exact-and in the second place, I was gratified to note that Joe did not cover the ground encompassed in my forthcoming volume, The Architecture of the Early Halloween Period.

It is time to define our terms. For instance, the word "eclectic" confuses the layman. Yesterday, I asked a valued friend, "What does the word 'eclectic' mean to you?" and after thinking

(Continued on page 56)





Three Dunbar Sofas-as unlike in design as indi vidual tastes require, but similar-and superiorin regard to quality and value.

MODERN INTERIORS. Send 25 cents to Berne, Ind. for this profusely illustrated booklet on contemporary decorating

DUNBAR FURNITURE MANUFACTURING CO. . BERNE, INDIANA

CHICAGO: 1638 Merchandise Mart BOSTON: 203 Clarendon Street KANSAS CITY: 212 Merchandise Mart NEW YORK: 227 East 56 Street







Wall type fixture plumbing gets fixtures up off the floor—marks a new era in sanitation. Clear, unobstructed floor areas make for neater, cleaner rest rooms. Washing or sweeping a floor is done more quickly, easily, economically. Wall type fixture plumbing reduces cost of rest room maintenance. Only the use of wall type plumbing fixtures protects toilet facilities against premature obsolescence.

Zurn Wall Closet Fittings and Wall Fixture Carriers are engineered to support wall type fixtures—off the floor, free of the wall—safely, securely and in permanent alignment. All necessary adjustments are simple; assembly and installation are fast—no mistakes, delays or grief on the job.

Zurn Wall Closet Fittings and Wall Fixture Carriers fit all types and makes of wall closets and wall type fixtures. Consult a Zurn representative for more details.

J. A. ZURN MFG. CO. PLUMBING BRIE, PA., U. S. A.

SALES OFFICES IN ALL PRINCIPAL CITIES

When, where and how to install wall type fixtures is thoroughly presented in the new Zurn "Carrier Catalog and Handbook"—virtually a manual for specifying, buying and installing wall type fixture plumbing. Order a copy now! You'll be needing it! No charge to architects and engineers and contractors.



Pre-eminent Manufacturer of Sanitary Products for the Protection of Human Health and Modern Structures.



Carrier Catalog and Handbook No. 50 J. A. ZURN MANUFACTURING CO. • PLUMBING DIVISION • ERIE, PA., U.S.A. Please send me the new Zurn "Carrier Catalog and Handbook" No. 50 for wall type plumbing fixtures.

Name and Title

Company

Street

City and State

Please attach coupon to your business letterhead.

Dept. AF

NO MECHANICAL AIR CLEANER CAN MATCH

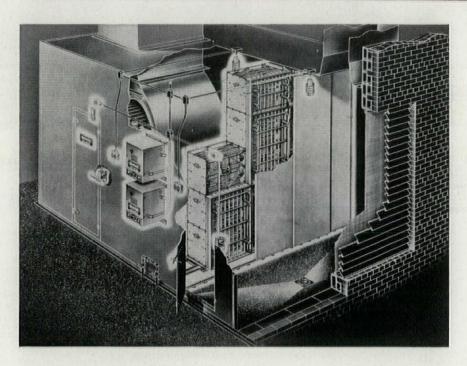
Precipitron

THE ELECTRONIC AIR CLEANER

When you buy an air filter, you are buying its *cleaning ability*. So consider this—while the best mechanical filters remove up to 30% of airborne dirt by volume, Westinghouse PRECIPITRON electronically removes 90% of *all* particles—even microscopic particles.

If airborne dirt is an obstacle in your manufacturing process, causes soilage, creates a hygienic problem or increases housekeeping costs, you need PRECIPITRON! This electronic cleaner will remove particles you can't see—as tiny as 1/250,000 of an inch.

PRECIPITRON, with its allaluminum individual cell construction, offers you moneysaving advantages. Greater plate area per cell enables you to clean any given volume of air at lower cost with less space and equipment. High resistance to rust and corrosion cuts maintenance, and its light weight means easy installation.



In terms of an air cleaner for your application, PRECIPITRON is unmatched. For complete information, write to Westinghouse Electric Corporation, Sturtevant Division, Hyde Park, Boston 36, Massachusetts.

Westinghouse

J-80186



Comparison proves NU-STYLE CABINETS

excel in Beauty, Durability and Utility

Here's why:-

- Exclusive Nu-Style door with "the Famous Profile,"...in perfect harmony with latest ranges and refrigerators.
- Nu-Style ... strongest cabinet made ... dovetailed drawers. Solid (3/4" thick) standards and mortised frames.
- 3 Nu-Style Cabinets can be scribed or sawn to join plastered surfaces.
- 4 🏲 Enamel any color or finish natural.
- 5 Produced by experts trained in latest scientific methods.
- 6 Made from thoroughly seasoned, kilndried Ponderosa Pine ... the best base for a wide variety of finishes.

Nu-Style Cabinets are sectional units in graduated sizes offering the utmost in flexibility of Color, Size and Layout.



DOVETAILED DRAWER

FRONTS

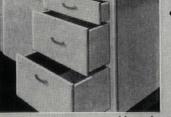
Make drawers extra strong. The dovetail can only be seen from the bottom—doesn't come up through the top.



The drawers and doors overlap their openings and make the interior of the cabinets dustproof.

EXTRA DEEP DRAWERS
Give added storage area for bulky

BILT WELL



Manufactured by

CARR, ADAMS & COLLIER CO. Dubuque, Iowa

Dubuque, Iowa

Makers of the famous BILT-WELL Line of Building Woodwork

The Bilt-Well Line: Superior Unit Wood Windows • Exterior & Interior Doors • Entrances & Shutters • Clos-tite Casements • Carr-dor Garage Doors • Basement Unit Windows • Louvers & Gable Sash • Breakfast Nooks • Combination Doors • Screens & Storm Sash • Corner (China) Cabinets • Gli-dor Cabinets • Ironing Board Cabinets • Mantels & Telephone Cabinets • Multiple-Use & Linen Cabinets • Stair Parts.

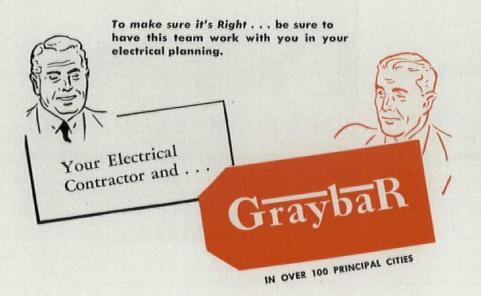


for "sound" help in planning check with Graybak

As a distributor of the nation's leading lines of signaling devices and "intercom" equipment, Graybar can give you really helpful assistance in planning any sound-system layout. Simply by calling the near-by Graybar office, you or the electrical contractor with whom you work can get up-to-date, detailed information on Edwards Lokator paging systems; Webster Teletalk amplified voice intercommunication; horns; bells; buzzers; sirens; and alarms — plus the proper wiring and accessories.

... and any other electrical system!

Graybar distributes more than 100,000 selected electrical items for wiring, lighting, power, ventilation and other electrical needs. Graybar Specialists are on call to help you and the electrical contractor plan any electrical system. Graybar Electric Company, Inc., Executive offices: Graybar Building, New York 17, N. Y.



LETTERS

deeply, he replied, "Well, my grandfather used to wear eclectic insoles to ward off rheumatism."

This is ridiculous. It was not rheumatism; it was arthritis.

As I get older, which I do quite regularly, I feel that my whole approach to writing on architectural subjects has been wrong. I kept trying to be funny. The mere fact that I did not succeed in being funny is no palliation for my offense. Furthermore, I did not get mad at enough people. I have noticed that most writers on architecture—not Joe Hudnut, who is as amiable a fellow as you'd want to meet—are very serious and very mad at somebody.

Well, this book of mine is about as serious as you can get, and I am mad at more people than you could put in the Yankee Stadium. Principally at people whom I suspect of not intending to buy my book.

I hardly know which chapters contain the finest writing. Sometimes I think it is the one entitled, The Influence of the Work of Vermouth on Contemporary Design, and then again, I vote for Octagon versus Octopus, or the AIA Against an Eight-sided Cat. And then I think the most moving writing is in the section where I report my interview with an architect who had sort of over-married; he remarked to me, "There are two ways to avoid paying alimony; stay single or stay married."

It is difficult to convey to you the encyclopedic sweep of this volume. It is probably the first book with so many subjects in it that it was necessary to have an index to the index,

I took it to my publisher and said, "I want you to put this out in the Spring." So he did. He threw it down the cistern.

> ROGER ALLEN, Architect Grand Rapids, Mich.

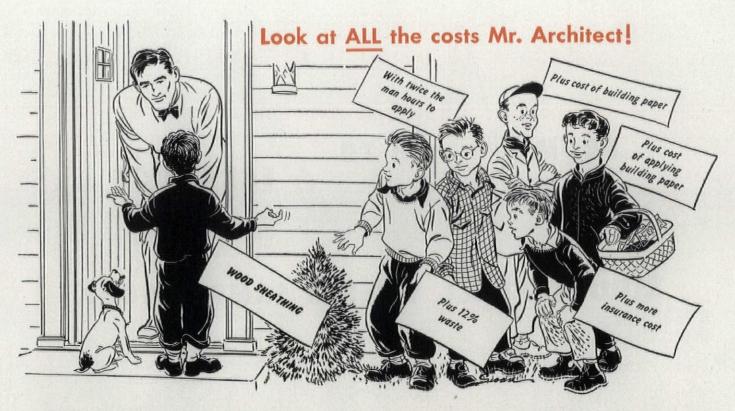
MISPLACED CREDIT

Forum:

The article on our Flextures on page 132 of the February FORUM is an excellent condensation of a complex subject. There is, however, a statement which might be misleading: The article inferred that Architects Kivett & Myers designed these cases in wood and that we put them into production in metal. Without taking away any credit for their excellent design of Macy's Kansas City store, this is far from the case, as the principle of the wood structure used in Kansas City has been used before. We had a working model of an off-the-back-cantilever metal fixture long before any design work was started on the Kansas City store. Further, the basic principle of the attachment of the brackets, inserts and applications of the Flextures is quite different,

KENNETH C. WELCH, Vice President Grand Rapids Store Equipment Co. Grand Rapids, Mich.

(Continued on page 60)



When you figure the total applied cost of sheathing, your best buy is *BILDRITE**

You only see part of the picture when you look at the cost of materials alone. To get the real story about sheathing costs, you have to figure the total applied costs. Remember: It's the applied cost that determines the cost of the house—and price to the client.

So let's see what happens: It takes about half the time to apply BILDRITE compared with wood. That's a big saving. There's no waste with BILDRITE as against 12% waste with wood. That's a saving—and there are plenty of others. See for yourself—fill in the forms at the right.

AND in addition you get the *plus* value of $2\frac{1}{2}$ times the insulating value and twice the bracing strength of wood sheathing horizontally applied! You can't get around the facts. The best buy in sheathing today is INSULITE (BILDRITE) Sheathing!

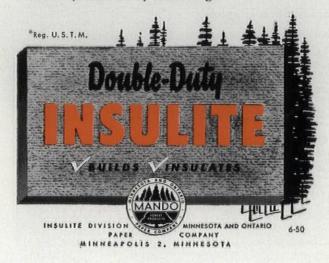


Figure it Yourself

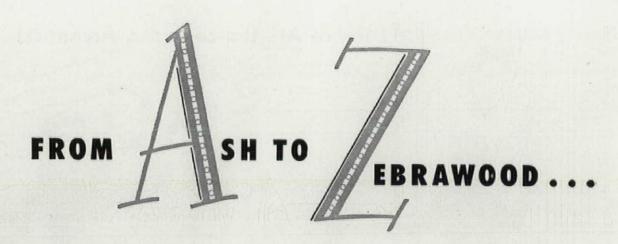
WOOD SHEATHING 1000 SQ. FT. WALL AREA

ITEM AND QUANTITY	RATE	TOTAL
1,000 sq. ft. 8" wood sheathing (horizontal)		
Waste, 12% (120 sq. ft.)		
Carpenter labor, 15 hours	11 481	
Insurance, 10% of carpenter costs		
2.8 rolls building paper	Language Mark	
Carpenter helper to apply paper		
Insurance, 10% of helper costs	maria via	Billion 1
TOTAL APPLIED COST, WOOD SHE	ATHING	I S CONT

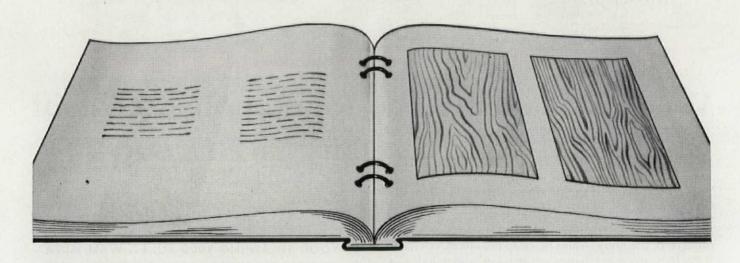
BILDRITE SHEATHING 1000 SQ. FT. WALL AREA

ITEM AND QUANTITY	RATE	TOTAL
1,000 sq. ft. Bildrite Sheathing		
Waste (Practically none. Less than 1%)		0
Carpenter labor, 8 hours		
Insurance, 10% of carpenter costs		
Building paper (None needed)		0
Helper to apply paper (None)		0
Insurance on helper (None)		0

Refer to Sweet's File, Architectural Section 10a/8



Roddiscraft veneer sample book



51 Actual Veneer Samples

Here's another Roddiscraft Service for architects—the new Roddiscraft Veneer Sample Book with 51 different species of wood in 5" x 7" veneer samples, with information about each one—available for the use of architects from your nearest Roddiscraft representative.

This handsomely bound volume will enable you to show your clients colors, grain and other characteristics of 51 woods, from Ash to Zebrawood. The Roddiscraft Veneer Sample Book helps take the guesswork out of veneer selection. Your client can see for himself how each wood actually looks. It will save you time when it comes to making decisions prior to the approval of actual flitch samples.

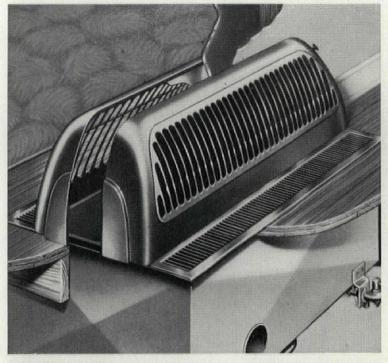
Write to your nearest Roddiscraft warehouse for a preview of the Veneer Sample Book you'll want one of your own when you see it!

Roddiscraft

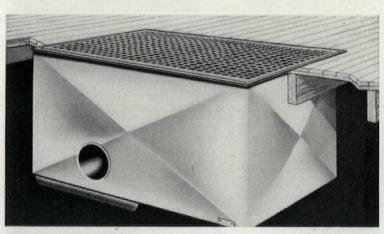
RODDIS PLYWOOD CORPORATION MARSHFIELD, WISCONSIN

NATIONWIDE Roddiscraft WAREHOUSE SERVICE

Modern automatic heat that's low-cost and easy to install...helps sell houses faster

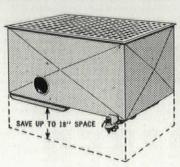


DUAL WALL MODEL fits beneath partition or wall and heats adjoining rooms.



FLAT REGISTER MODEL lies flush with floor. Easy and economical to install!

FLAT REGISTER AND DUAL WALL MODELS—The Flat Register Model lies flush with the floor. The Dual Wall model fits beneath wall or partition to heat adjoining rooms at same time. Coleman Floor Furnaces come in models from 25,000 to 70,000 BTU rating. Coleman makes them for Gas, Oil and LP-gas. Not an adaptation but a complete new heat engineering job throughout. Send coupon for more information.



SHALLOFLOW

The little furnace with big-furnace heat! So shallow it saves up to 18" on depth. It's flood-proof to 19" below floor. Though small, it has the dependable heating efficiency for which the larger models are famous.

THE COLEMAN COMPANY, INC. WICHITA 1 KANSAS

Coleman Floor Furnaces

Models for Gas, Oil and LP-gas

ern low-cost heating unit that keeps costs down. The Coleman Floor Furnace fits in the floor and gives clean, silent, economical heating. Installation is easy and low-cost because (1) No basement or pit is needed; (2) There's no expensive plumbing; (3) There are no air ducts. A Coleman makes and moves the heat for circulated warm air through 4 to 5 rooms, with a complete change of warm air 3 to 5 times an hour.



Also in Dual Wall model to heat two adjoining rooms at the same time.

COMFORT COSTS SO LITTLE WITH A

mover that circulates warm

air. A heater of many uses.

Coleman .

The Coleman Company, Inc.,	Dept. AF-	58, Wichit	a 1, Kansa
Please send information of	n:	State wh	ether
Coleman Floor Furnace	☐ Ga	s 🗆 Oil	En Constitution Of the Constitution
Coleman Gas Wall Heater			
Name			
Street			
City	Zone	State	

SISALKRAFT OVER SUBFILL FOR BETTER CONCRETE SLABS



Here SISALKRAFT is shown laid over subfill, with concrete mix being spread over SISALKRAFT and reinforcing rods.

MEMBRANE-WATERPROOFING WITH SISALKRAFT SAYES MATERIALS, TIME and LABOR ASSURES HARDER, MOISTURE-FREE CONCRETE FLOORS

- SISALKRAFT prevents water and cement in mix from seeping into subfill . . . therefore permits specified proportions of water and cement to be maintained for proper concrete density and strength.
- SISALKRAFT prevents concrete from forming "fingers" in the voids of subfill . . . "fingers" that later draw moisture up into slab.
- SAVINGS in concrete, time and labor more than pay for small cost of SISAL-KRAFT.
- This SISALKRAFT Method is ideal for basementless homes . . . also for ground floor slabs of commercial structures.
- For PROTECTION and CURING of concrete, SISALKRAFT is unequalled.
- STANDARD SIZES: Rolls up to 8 ft, wide. For most areas, SPECIAL BLANKETS can be furnished, made-to-order for exact slab dimensions, up to 26'6" wide.

ALL THREE SISALKRAFT PRODUCTS for safe, long-lasting protection AT LOWEST COST!

SISALKRAFT
reinforced protective building paper
SISALATION
reinforced reflective insulation
COPPER ARMORED SISALKRAFT



The	SISALKRAFT Co., Dept. AF6
	W. Wacker Drive, Chicago 6, Ill.
	Please send samples and data on SISALKRAFT Products.
	I am an ☐ Architect; ☐ Realtor; ☐ Contractor.
Nam	e
Firm	Name
Add	ess
M	City & State
61.2	HE SISALKRAFT CO.
Chico	go 6 • New York 17 • San Francisco

LETTERS

UN'S APPLE BOX

Forum:

I heartily agree with Bernard Wagner who, on page 28 of your March issue, voices his objections to the design of the UN Secretariat. I thought perhaps I was the only person who disliked the modern trend of making all buildings look like cheese boxes, apple boxes or any other kind of box having straight lines....

To think that a group of architects actually got paid for "designing" such a huge box. I wish I could collect a nice big fee for drawing nine straight lines in perspective. Why hire architects at all? Any amateur high school kid in first-year drawing class can do as well. Of course, I am only considering the actual design of the outside; anyone will admit that a great deal of technological knowledge is required to design and lay out the floor plans, plumbing, wiring, etc. Also, I will admit that straight lines in outside design help to make a building easier to clean and maintain. Nevertheless, it is still very possible to give buildings an outward beauty and make them easy to maintain, as well.

I am not the only one who objects to modern buildings copying the lowly design of apple boxes, et al. A committee of local women voiced their objections to a design of this type for the new union station to be erected in New Orleans. Although they didn't ask for any fancy frills as seen on the old types of architecture here, they did want an exterior design which would be beautiful and more in harmony with the love for beautiful things expressed by many New Orleanians. Incidentally, there is more architectural beauty (and utility) in one city block of cheap houses "on the wrong side of the track" in this city than there is in a dozen of those apple-box monstrosities of which the United Nations Building is no doubt the prime example. . . .

Nature "abhors a straight line" and so does the esthetic sense of any normal person. What we need is more esthetic inspiration and less cigarette inspiration.

I hate to run down the lowly and useful apple box, At least we can give it credit for having a beautiful lithographed picture of bright red apples on each end. What does the United Nations Building have on both ends to beautify it? An unseen basement and an asphalt roof?

I think the architects ought to frequent their hobby workshops to a greater extent and, with the use of routers, scroll saws, draftsman's curves, band saws, etc., rediscover the beauty and utility of scrolls, figures, curves, etc. Beauty can still be had without necessarily producing pockets for birds' nests or ornamental shelves for dovedroppings.

W. LUNDQUIST New Orleans, La.

• Reader Lundquist and Nature, who abhor straight lines, were undoubtedly pleased with the subtle curves of the UN Assembly Building which FORUM presented last month.—ED.

Business goes up



when BAKERAIRE goes in

Somewhere, the year 'round people are seeking out the air conditioned places. Restaurants, taverns, theatres, stores—equipped with BAKER Air Conditioning—are gaining new customers to have and to hold.

BAKERAIRE-conditioning is more than coolness. Temperature, humidity, circulation and ventilation are zone-balanced to produce uniform comfort. Air from the conditioned space is cleaned, mixed with fresh air, cooled, de-humidified and circulated without drafts. Odors, disappear . . No wonder business goes up when BAKERAIRE goes in!

BAKERAIRE is a self-contained "packaged" unit, assembled and tested at the factory. It is available in 4 standard models providing 3, 5, 7½ or 10 tons of refrigeration. It is equipped with the famous open type Baker Freon Compressor, with motor of any required electrical characteristics — or with the Baker Hermetic Freon Compressor. It is delivered, ready to circulate conditioned air through the plenum grille or through ductwork, as required. A BAKERAIRE will be installed to fit each of your clients' needs by an air conditioning expert — one of BAKER'S many experienced Distributors.



The Baker Architects' and Engineers' Manual is a complete file of information covering Baker Equipment for all forms of Commercial Refrigeration and Air Conditioning. It contains data, tables, specification sheets and case histories. Baker Authorized Distributors are skilled Refrigerating Engineers, qualified to assist in the technical phases of specification work. Address BAKER REFRIGERATION CORPORATION, South Windham, Maine.



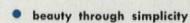
Air Conditioning and Refrigeration

Long. Light and Handsome



Slimline-Troffer

in various one-piece lengths up to 8 ft.



- flexible light volume
- lower installation cost
- lower maintenance cost

Here is a long, symmetrical fixture that "cooperates" enthusiastically with architects and contractors who want to achieve the presentultimate in lighting beauty and economy. Recessed lighting in extra-long fixtures with a shielding-choice of louvers, baffles, glass enclosures and various special type lenses. Extra length means fewer lamps . . . reduced maintenance cost. Ask us for full details!

SPECIFICATIONS: The LEADER SLIMLINE-TROFFER is wired for 1, 2 or 3 slimline tubes, in 42" to 96" length. Housing and channel of 18 gauge steel. Exterior and end cap finished in rich silver-gray enamel, with high-reflecting white chip-proof baked enamel interior. Extra-sturdy one-piece construction. Instant-start 100, 200, 300 or 425 milliampere operation.

Sold and installed only by the better electrical wholesalers and contractors

America's No. 1 Lighting Equipment Manufacturer

TRADE MARK REGISTERED

lighting . . . Also fur-

nished as incandes-

cent unit with flat diffusing glass or

(Holophane Con-

trolens*).

LEADER Troffer DIRECLITE

This incandescent spotlight may be used between Troffer units in con-

tinuous runs or at ends of run, or as

individual units. Unique ball and ring assembly provides vertical light adjustment of 45° and horizontal

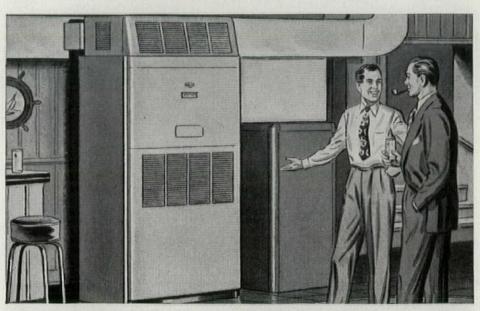
adjustment of 360° for flexible high-

LEADER ELECTRIC COMPANY Leader Electric - Western Campbell-Leader, Ltd.

800 One Hundredth Avenue Brantford, Ontario

3500 N. KEDZIE AVENUE · CHICAGO 18, ILLINOIS Oakland 3, Cal.

NOW! Summer comfort for any homeat a surprisingly moderate cost!



With hot air heating systems, a Frigidaire Air Conditioner can be placed beside the furnace and quickly connected to the heating pipes with only two short ducts. A damper directs return air to the air conditioner, by-passing the furnace during the summer.



With other heating systems - such as radiant heating - Frigidaire Air Conditioner is installed in a concealed central location. Short ducts lead to the rooms, and cooling for each may be controlled as desired. This plan is ideal for single-story homes.

FRIGIDAIRE



Air Conditioning

Over 400 Frigidaire commercial refrigeration and air conditioning products - most complete line in the industry.

Frigidaire Self-Contained Units Make Moderately-Priced Air Conditioned Homes A Reality!

Yes, it's easy to give new or existing homes the big advantage of air conditioned comfort! One compact. completely self-contained Frigidaire Air Conditioner does the job-furnishes a plentiful supply of dust-free, dehumidified air at temperatures to suit the season.

Installation cost is remarkably reasonable-even for existing structures. Operating cost is also low, for these Frigidaire-designed and built units give years of thrifty, trouble-free service. And first cost is now less than you would expect for a genuine Frigidaire Air Conditioning Unit-thanks to newly reduced prices.

Look at these important Frigidaire advantages

Frigidaire Compressor is famous for its dependabilityprecision-matched with cooling unit and controls to give years and years of thrifty, trouble-free service.

Cleanable filters are scientifically made of expanded aluminum to "sweep" air really clean of dust, dirt, soot, pollen. They can easily be taken out and cleaned.

Multipath Cooling Unit assures fast, even cooling. Precisely metered flow of refrigerant-in just-right amountsprovides efficient use of entire cooling surface.

Just two controls-"On-Off" switch and simple temperature dial-permit finger-tip control of the "weather."

For full details on home installation of Frigidaire Air Conditioners-as well as their many other applications -call your Frigidaire Dealer. Ask him, too, about the new low prices on compact, good-looking Window-Type Air Conditioners. Look for his name in your Classified Phone Book, under "Air Conditioning" or "Refrigeration Equipment." Or mail coupon today for Frigidaire's AIA File of information for architects and builders.

FRIGIDAIRE DIVISION OF GENERAL MOTORS 1459 Amelia St., Dayton 1, Ohio. In Canada, Leaside 12, Ont. Please send me the AIA File of information on Frigidaire Air Conditioning and Refrigeration Equipment for architects and builders. I understand there is no obligation.

Name			
Firm Name			
Address			
City	County	State	***************************************



Shoremede Hotel, Miami Beach, Fla. Designed and installed by The Maxwell Co., Miami, Fla.

Soltaflex

... on walls and bar fronts, booths and bar stools, on furniture of every kind in hotel lobbies and hotel suites. You'll find Boltaflex in over 60 famous hotels and entertainment spots in the city of Miami Beach alone.

Here in Miami Beach, and wherever lush, luxurious beauty is desired, architects and decorators have turned to Boltaflex. For richness and color . . . for modern dramatic effects . . . where durability and ease of cleaning are prime requisites, they've found Boltaflex a permanently beautiful yet amazingly inexpensive solution.

It will pay you to check over the Boltaflex features and write Department Y-56 for samples, prices, furniture sources, or any information you need in specifying Boltaflex on your job.

BOLTA PRODUCTS SALES, INC.

Lawrence, Massachusetts

Branch Offices: New York, 45 W. 34th St.; Chicago, Space 211 American Furniture Mart; High Point, N. C., 513 English St.; Philadelphia, 230 Arch St.; Los Angeles, 8820 W. 18th St.

CHECK OVER THESE BOLTAFLEX FEATURES:

- 1 Boltaflex is solid plastic, not fabric-backed. It won't chip, peel or wrinkle, and the color goes all the way through.
- 2 Boltaflex comes in the widest range of solid and two-tone colors and metallics on the market. See also the magnificent line of Multi-Color Prints and Patterns combining the durability of uphol-stering plastic with the beauty, color and design of fine fabrics.
- 3 Boltaflex is warm and pleasant to the touch, and it is supple and pliable with high tensile strength. Its stitch-tear resistance and stretch-recovery delight manufacturers and decorators.
- 4 Boltaflex cleans like new with a whisk of soap and water, and its non-porous surface makes it weather and perspiration proof. It is highly resistant to grease, food and drink stains.
- 5 Boltaflex is guaranteed. Write for our

Boltaflex is also available in SEALTUFT, the stitchless, quilted plastic.

Boltaflex means Covered with Beauty



Tinerir

G. E. Kidder Smith



REPORT FROM MOROCCO

by G. E. Kidder Smith*

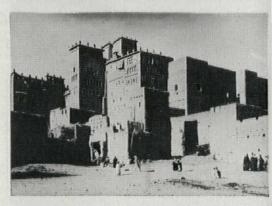
Architecturally, touristically, visually and emotionally, Morocco is one of the most fascinating countries on earth.

Although its modern architecture contains fewer noteworthy examples than would be expected from a mushrooming community, and its Roman ruins cannot touch the extensive remains in Algeria and Tunisia, the native work, especially that in the Dadés Valley over the Atlas Mountains, is in the realm of the fantastic. This valley is full of fortified castles and villages.

These bizarre mud "skyscrapers," much like those in southern Arabia, are strung along a straggling river whose bed is sometimes wet but more often dry. When local wells augment the river, they produce a large oasis where whole villages, called ksour, grow up, that at Tinerir (photo above, left) being very extensive. Between the larger settlements are found the isolated family strongholds, four



Bou Malne (above): Quarzazate (below)



square elegant structures with crenelated towers at each corner and bastioned walls. These tighremts, as they are called, are also found in the ksour—generally as the house of the chief of the village—with a relatively haphazard collection of buildings clustered around. The isolated tighremt, such as that at Bou Malne (see photo), is a commanding and (Continued on page 68)

^{*}The second in a series of architectural impressions of European and North African countries, this is a report from Architect-Author-Photographer G. E. Kidder Smith, who is visiting these countries (with the aid of a President's Fellowship from Brown University) to study and photograph their native and contemporary architecture.

This General Motors Plant is protected by

more than 22 ACRES of Koppers Roofing!



In WILMINGTON, DELAWARE, General Motors has a tremendous automobile plant—one of the most modern in the world. And it's protected by a million square feet of Koppers Roofing. Take a close look at the roofing surface. Looks good, doesn't it? And, in all probability, 20 years from now, this Koppers Roof will still be in excellent condition. That's not based on guesswork, but on case histories of comparable roofs built-up with Koppers Coal Tar Pitch and Tarred Felt.

It's common for Koppers Pitch and Felt Roofs to give owners more than 20 years' cost-free service.* That's not surprising when you consider that Koppers Roofs possess unusual tensile strength; are impervious to water; are "self-sealing" if small breaks occur; are actually armored against the elements when gravel or slag is embedded in a heavy pouring of Koppers Pitch,

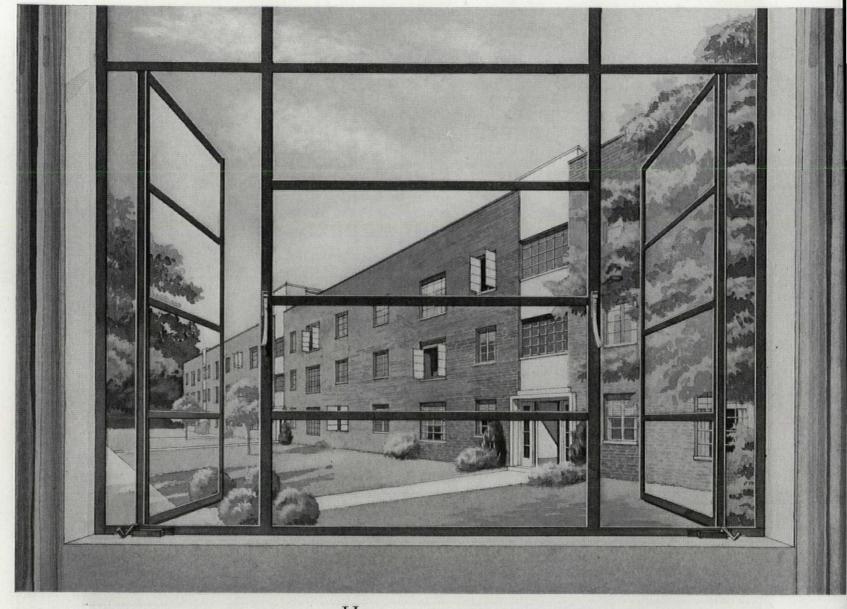
By specifying Koppers, you can make certain that your projects are using the finest in roofing materials.

*Koppers issues Roof Guarantee Bonds for 10, 15 or 20 years in such sections of the United States as are covered by its inspection service. Aerial Photograph: B.O.P. Assembly Plant of General Motors Corp., Wilmington, Del.
Architect and Engineer:
Albert Kahn, Detroit, Mich.
General Contractor: Consolidated Engineering Co., Baltimore, Md.
Roofing Contractor: Warren Ehret Co., Philadelphia, Pa.



KOPPERS COMPANY, INC., Pittsburgh 19, Pa.

· SPECIFY KOPPERS FOR LONG-LIFE ROOFING



Rosewood Garden Apartments, Tuckahoe, N. Y. Architect: DeRose & Cavalieri, New York, N. Y. Builders: Gracely Building Corp., Bronxville, N. Y.

Here is what architects like about Lupton Casement Windows for garden apartments—the abundant daylighting, the controlled, natural ventilation and the economy of installation possible with these easy-to-install complete units. Lupton Metal Windows are precision built at every point. Narrow metal frames increase glass area . . . will not warp, swell, shrink or rattle. Frames are Bonderized to increase the effective life of finish paint. Air flow is draftless. Ventilators open to any desired amount. Lupton Metal Windows are equipped with beautifully designed locking hardware that allows finger-touch operation. Bronze wire screens with narrow metal frames are available for open-in or open-out ventilators. There is a Lupton Metal Window for every type of building. Write for our General Catalog or see it in Sweet's.

Send for data sheets on the new Lupton "Master" Aluminum Window for schools, hospitals and office buildings.

MICHAEL FLYNN MANUFACTURING CO. 700 East Godfrey Avenue, Philadelphia 24, Penna. Member of the Metal Window Institute

LUPTON METAL WINDOWS

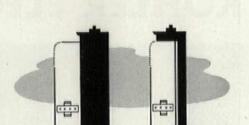
Getting the most for your money...

Convectors PACKAGED UNITS FOR MODERN HEATING BY CONVECTION—RADIATION



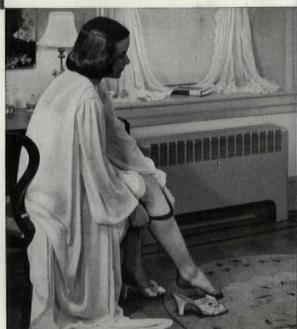
One of the 10,264 Nesbitt Convectors in the Lynnewood Gardens apartment project, near Philadelphia,

The swing to convector radiation for thousands of new homes, apartments and commercial structures is abundantly justified. Convectors are light in weight, easy to install, low in cost, economical of fuel and more pleasing in appearance. Convected heat is uniform in distribution, comfortable from the floor up. Your full swing is to Nesbitt Model U Convectors. Nesbitt's better construction and unique advantages give you the most value for your dollar. Universal features in cabinet and heating element, curved-top grille and classic design are added reasons why many big apartment projects are going Nesbitt. Acquaint yourself . . . send for Publication 262.

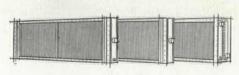


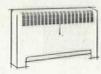
Comfort, convenience, beauty and economy combine to make Nesbitt Model U your best convector-radiator buy.

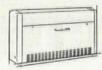
FREE-STANDING ONE CABINET SEMI-RECESSED Made in 21 stock sizes: Height, 20" and 24"—lengths, 16" to 64"—floor and wallhung types.

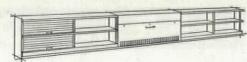


Nesbitt Convectors are sold exclusively by plumbing and heating wholesalers.











Brown house, Casablanca



Specify-

KOHLER ELECTRIC PLANTS

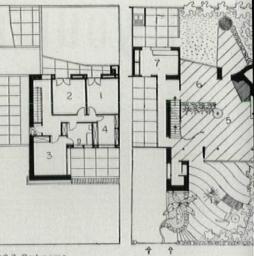


Life and property are endangered when storms or accidents cause power failures. Without electricity, hospital operating rooms are in darkness; sterilizers, iron lungs, x-ray machines stop functioning. Schools, sanitariums, stores, theatres, auditoriums, may be plunged in sudden darkness that causes panic. Important processing equipment is halted in factories. Lack of automatic heat threatens health in homes, flower stocks in greenhouses, oven-batches

in bakeries, chicks in hatchery brooders.

Put stand-by Kohler Electric Plants in your specifications and safeguard your clients. When power fails, Kohler plants start automatically; run for days if necessary; stop automatically when power is restored. Thousands are in use. Cost is reasonable. Many sizes available. Write today for folder K-17, Kohler Co., Kohler, Wisconsin. Established 1873.

PLUMBING FIXTURES . HEATING EQUIPMENT . ELECTRIC PLANTS . AIR-COOLED ENGINES



1,2,3, Bedrooms

- 4 Dressing Room 5 Living Room

- 6 Dining Room 7 Kitchen

handsome edifice, while the fortified villages present a wonderfully mysterious and forbidding appearance-like the buildings for some secret society. The Kasbah of Taourirt a Quarzazate (photo, p. 64) is one of the largest and most impressive of these, so much so that Orson Welles recently used it as the locale for a movie called "The Black Rose."

The construction of all these strange and exotic buildings is based solely on the means at hand-clay, straw, pebbles and a small amount of wood. No lime, no cement and no structural members are employed. The outside walls are composed only of clay with straw binder and pebble aggregate, and when baked to unity by the blazing sun are very strong, their main enemy being rain and water.

Interior walls are usually of unbaked brick. Wood is used for lintels and framing for doors and windows but not much else.

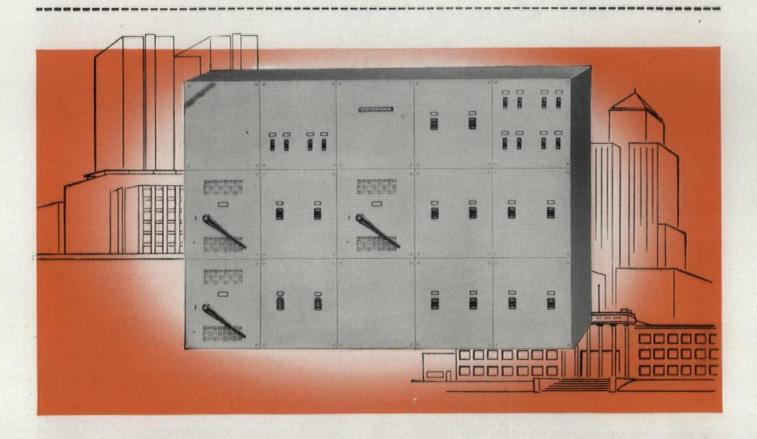
With wall-bearing mud as the main structural material, it is extraordinary that height instead of breadth should be sought in these buildings. However, defense determined their form. Thus, instead of producing low mud structures which last for generations, like our own adobe work in Arizona and New Mexico. they have a building form which requires considerable upkeep and attention to keep it from becoming a flower bed or vegetable garden.

Considering that Casablanca, the most important city of French Moroeco, has grown from around 10,000 inhabitants in 1907 to more than 500,000 today, it is surprising (and disappointing) not to find more contemporary work of merit. Most of the architecture is a bit formal, static and balanced with accent on round columns, heavy cornices and stylized Beaux-Arts motifs. Much of the rest is an architectural cous-cous, cous-cous being the

(Continued on page 72)

YOU CAN BE SURE .. IF IT'S

Westinghouse



New STANDARDIZED Building-type Switchboards

Cut Planning Time

Switchboard planning for offices and other commercial-type buildings is greatly simplified with the NEW Westinghouse *Standardized* Building-type Switchboard.

Unitized construction eliminates special design problems . . . yet their complete flexibility gives you all the advantages of "custom built" units.

Factory-assembled, wired and tested, they may be shipped as a single unit and quickly placed in service. However, if desired, they can be shipped as individual units and quickly reassembled on the job.

They are specifically designed to feature lowcost circuit breaker protection by means of Westinghouse nofuze "De-ion" type AB circuit breakers for ratings through 600 amperes. For ratings above 600 amps, Westinghouse type DA breakers are used. Get the complete story. Call your nearest Westinghouse office or write for D. B. 30-990, Westinghouse Electric Corporation, P. O. Box 868, Pittsburgh 30, Pennsylvania.





ing architects and engineers turn to Kewanee Boilers when they require dependable heating for their finest buildings.

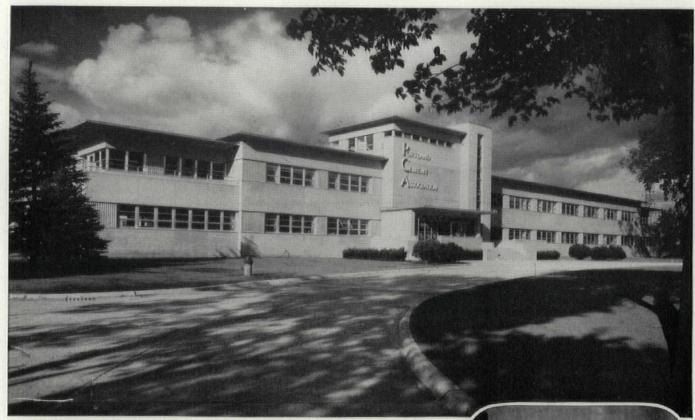
Kewanee Type "C" Boilers for mechanical firing were installed in these modern stores by Reliance Engineering Co., Charlotte, N. C.

KEWANEE, ILLINOIS

Branches in 60 Cities — Eastern District Office: 40 West 40th Street, New York City 18

Serving home and industry

AMERICAN-STANDARD . AMERICAN BLOWER . CHURCH SEATS . DETROIT LUBRICATOR . KEWANEE BOILERS . ROSS HEATER . TONAWANDA IRON



We practice what we preach so we built our new laboratories with

Architectural Concrete

For many years we have been telling architects, engineers, contractors and others about the advantages of building with architectural concrete. So when we planned buildings of our own—new research laboratories near Chicago—the natural choice was architectural concrete.

With more than 30 laboratories in two buildings (larger building shown above) requiring varying temperatures and humidity and many kinds of equipment; with dusty soil and aggregate handling facilities adjacent to offices and rooms containing delicate laboratory instruments, the job presented a real challenge to the architect and contractor.

Architectural concrete meets all the requirements for strength, rigidity and weathertightness in such buildings. And, like other architectural concrete structures, these laboratories have distinctive beauty, firesafety and the durability to deliver long years of service.

Architectural concrete is ideal for structures of any size or purpose — schools, factories, hospitals, office and apartment buildings. Its long life and low maintenance cost result in **low-annual-cost** service — the true measure of construction value. Such low-cost service is important to owners, investors and taxpayers alike.

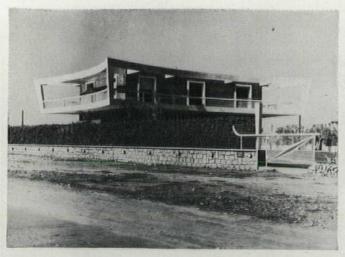
For more information about architectural concrete write for free, illustrated literature. Distributed only in United States and Canada.

Larger of two architectural concrete buildings housing new PCA research and development laboratories is shown at top. Interior of main lobby is pictured above. The two buildings

Larger of two architectural concrete buildings housing new PCA research and development laboratories is shown at top. Interior of main lobby is pictured above. The two buildings have a combined floor space of about 98,000 sq. ft. and required 7,300 cu. yd. of concrete. All exterior walls are of air-entrained concrete. Oregon fir forms created the board texture. All interior partitions are concrete masonry. The cast stone used in the lobby was made with granite aggregate. Carr & Wright were architects and engineers; The Turner Construction Company was contractor.

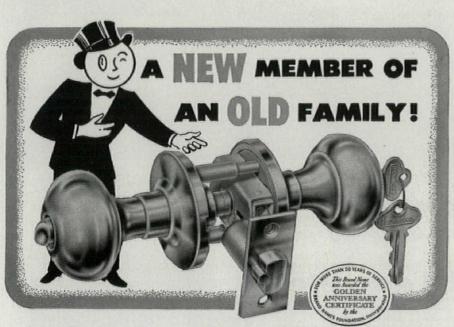
PORTLAND CEMENT ASSOCIATION Dept. 6-7, 33 WEST GRAND AVENUE, CHICAGO 10, ILLINOIS

A national organization to improve and extend the uses of portland cement and concrete through scientific research and engineering field work





Real estate operator's house. Casablanca

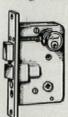


... Keeps the Lockwood Line Complete!

Lockwood's family tree, for over 70 years, has read like a "Who's-Who" and a "What's-What" in the builders' hardware industry. And naturally enough, Lockwood's KEY'N KNOB type locks have come along to take their place with the

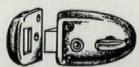
famous STANDARDIZED MOR-TISE CYLINDER LOCKS, *BOR-LOCS, RIM LOCKS AND PAD-LOCKS - all Lockwood engineered new, high standards of performance.

*Trade Mark Registered U. S. Patent Office



Lockwood Standardized Mortise Cylinder Locks "5100" and "T 5000" series.







Rim Night Latches in modern streamlined de-

Bor-Locs (Tubular Lock Sets) designed for low cost installation.



Padlocks of heavy bronze, with pin tum bler cylinder security.

All master keyed without complications under the "LOCKWOOD TWELVE SECTION SECURITY MASTER KEY SYSTEM".



LOCKWOOD HARDWARE MFG. CO.

Division of Independent Lock Company
FITCHBURG • MASSACHUSETTS

REPORT FROM MOROCCO

Moroccan equivalent of goulash or Irish stew However, the young architectural firm of Zevaco and Messina is doing some interest

ing, though at times flamboyant, work. Their most successful job is a handsome house for Robert Brown, an American in our State De partment (see photos, page 68). Although there is a slight tendency to go overboard in the design and make it almost too rich, the house as a whole is one of the best in North Africa and one of the few to tackle the burning question of the sun. The choice of a narrow lot hemmed in by neighboring houses seems unfortunate, but the architects have realized the maximum of outdoor living space, both front and rear, with considerable privacy. The most striking feature of the facade is the contrast of vertical concrete bris-soleil (protecting the upstairs porch) with the horizontal dark brick wall.

In front of the house there is a well-developed and planned garden court, shielded from the street by a slightly elevated and curved concrete screen, the outside of which has a colorful abstract mural. Inside, the main living area is subdivided by another curved (and pierced) concrete screen.

Probably even more satisfactory from the client's aspect, but one whose esthetics are more dubious, is the house which Zevaco and Messina are now finishing for a wealthy real estate operator in Casablanca. The owner demanded a house which would be as prominent and attention-compelling as possible, and for a site got a long triangular lot where normally a monument (or filling station) would be erected. As the photos (above) show, the house is certainly calculated to stun one with its originality and, thus, superbly fulfills its program. Perhaps in the future we will witness tamer editions of the genius which produced it.

The only other outstanding design in Morocco is the "Toboggan" in the enormous ocean-fed swimming pool in Casablanca. This entertaining structure by the City Engineering Office is a clever and capable exposition of French concrete versatility.

Flandrin



Casablanca Toboggan

Raymond OF CONCRETE PILES

MAKES 5 TYPES

1. STANDARD . . . 2. STEP-TAPER . . . 3. PIPE STEP-TAPER

4. COMPOSITE . . .

5. GOW CAISSONS

Raymond installs every type of pile: cast-in-place concrete, precast concrete, steel pipe, wood and H-beam. Raymond operations include underpinning, borings and soil investigations, waterfront

construction and harbor and river improvements; also cement mortar lining of pipes by the Centriline Corporation, a Raymond Subsidiary.

At left, excavating starting pit and placing first cylinder. At center, excavating bell at bottom of the steel-lined shaft. At right, the completed caisson.

5. GOW CAISSON PILES

For heavy concentrated loads...

Raymond Gow caissons are efficient and economical for supporting heavy concentrated loads under certain soil conditions. The Gow method consists of hand or machine excavation carried on inside of telescoping steel cylinders. Where the caisson rests on hard ground, a bell is usually formed at the bottom to distribute the load over a large area. Where the caisson rests on rock, the bell is usually omitted. After excavation is completed, the steel cylinders are removed as the concrete is poured.

Because heavy equipment is not required and the steel cylinders are re-usable, Gow Caissons are economical in most soils. Your inquiry is cordially invited.



CONCRETE PILE CO.

+581

+575

TELESCOPING

STEEL SHELLS

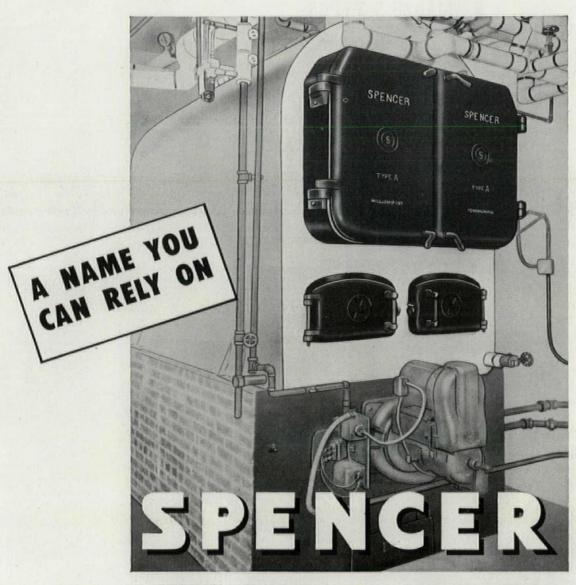
PROVIDE FORM FOR CAISSON.

62

58

140 CEDAR ST., NEW YORK 6, N. Y.

BRANCH OFFICES: Boston, Syracuse, Philadelphia, Baltimore, Washington, Pittsburgh, Atlanta, Miami, Houston, Kansas City, St. Louis, Cleveland, Chicago, Detroit, Salt Lake City, Portland, San Francisco, Oakland, Los Angeles and principal cities in Latin America.



THE QUALITY LINE OF HEATING BOILERS

VERSATILE

Boilers for all types of fuel and all methods of firing. Capacities from 290 to 45,000 square feet, steam.

DEPENDABLE

Precision-engineered and manufactured to give superior, guaranteed service.

THERE IS A SPENCER FOR EVERY BUILDING FOR EVERY FUEL

76 Dependable Models to Choose from



Write for free catalog today

Constructed in accordance with ASME requirements. Fully approved by Steel Boiler Institute or Institute of Boiler and Radiator Manufacturers





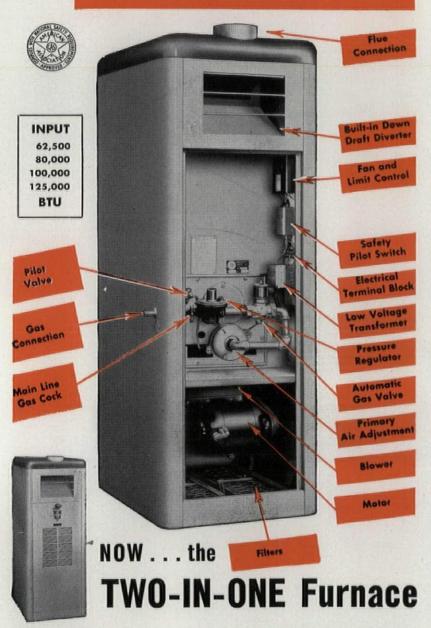


Division of AMERICAN RADIATOR & Standard Sanitary CORPORATION

Photo courtesy of United Nations Planning Office. Architects: Board of Design Consultants Wallace K. Harrison, Director of Planning Mechanical Engineers: Syska & Hennessy, Inc.

Serving home and industry: AMERICAN-STANDARD . AMERICAN BLOWER . CHURCH SEATS . DETROIT LUBRICATOR . KEWANEE BOILERS . ROSS HEATER . TONAWANDA IRON

SECURITY MODEL SFA AUTOMATIC GAS-FIRED HI-LO COMBINATION



For Closet Installations

Eliminates Duplicate Stock . . . Completely Factory-Assembled in One Package!



For Basement Installations

Yes, sir . . . TWO-IN-ONE because only standard Security SFA Furnaces need be kept in stock. Factory-assembled and wired to serve in closet-type or usual basement-type installations. Return air duct connector for basement application is shipped knocked down . . . can be attached to the back or to either side in a matter of minutes.

All controls are located in one compartment.

Quick, accurate adjustments . . . easy replacements
are expedited without disturbing other wiring. Builtin filter racks can be placed at installer's option.

Built of top-quality materials throughout. Complete information, specifications, prices and discounts available. Write today!

SECURITY MANUFACTURING CO.

1630 Oakland Ave.

Kansas City 3, Mo.

BEHIND THE BLUEPRINTS







HOLABIRD & ROOT & BURGEE has its antecedents in the old Chicago firm of Holabird & Roche founded 68 years ago, changed in 1927 to Holabird & Root, and in 1948

to its present form, with John Wellborn Root (senior partner), William Holabird (grandson of the founder) and Joseph Z. Burgee at the helm. They are hotel design specialists (p. 90).



A Texan tried and true, **DONALD BARTHELME** was born in Galveston in 1907, left his home state only briefly to take his architectural degree at the University of Pennsylvania in 1930. He has had his own design office since 1934, in Galveston at first, in Houston since 1939. His specialty is school design, e.g. the St. Rose School (p. 102).



An eminently successful young architect at 34, VINCENT G. KLING has won several coveted awards (AIA, Museum of Modern Art) since receiving his Master of Architecture from MIT in 1937. A Navy veteran, he runs a busy 14 man office in Philadelphia, designs hospitals, laboratories (p. 106) and college buildings.

The eight-man Boston design team known as THE ARCHITECTS COLLABORATIVE utilized the talents of partners Walter Gropius, Jean Bodman Fletcher, Norman Fletcher, John C. Harkness, Sarah Harkness, Robert S. McMillan, Louis McMillen and Benjamin Thompson to turn out the crisp New England houses published this month (p. 112). Walter Gropius heads Harvards' Graduate School of Design, is the famed ex-director of the Bauhaus, Robert S. Mc-Millan, Norman Fletcher, and Benjamin Thompson are all Yale-trained architects, unlike Louis McMillen, Jean Fletcher and John Harkness, whose architectural degrees bear the Harvard insignia. Sarah Harkness studied at the Smith College School of Architecture. Called "TAC" for short, the present group, organized in 1946, stresses individual freedom of initiative rather than authoritative direction by a boss.





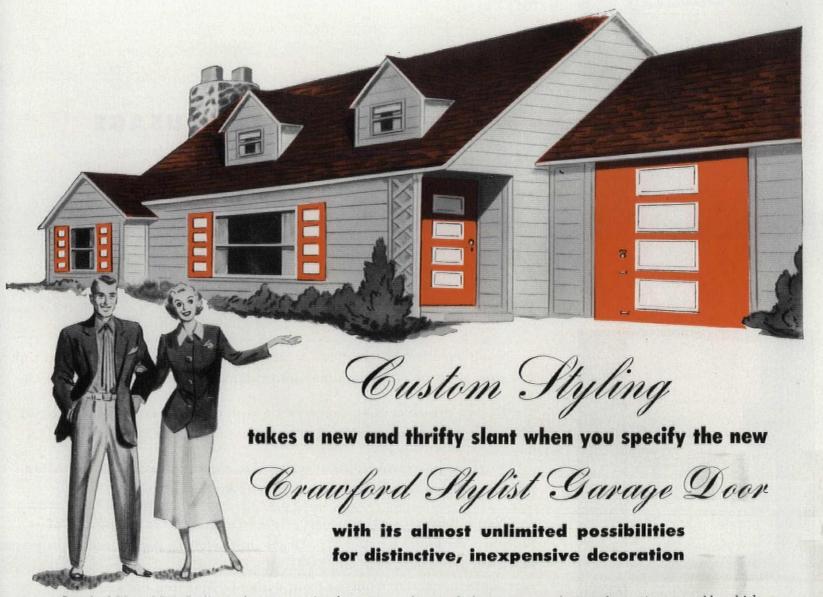


O'NEIL FORD (c.), BARTLETT COCKE (r.) and HARVEY P. SMITH (l.) are the three San Antonio architects who evolved Texas' bold new Trinity University buildings (p. 136).

Ford's background includes both mass rural housing and custom-built residences. Bartlett Cocke has had a general practice in San Antonio since 1927. Smith's is the oldest office of the three, founded in 1919.



A. I. McFARLAN hails from Westfield, N. J., holds a degree in mechanical engineering from Lehigh University dated 1926. With 19 years of experience in air conditioning and refrigeration, he set up his own contracting firm in New York in 1945, lists Standard Oil Co., Squibb and General Electric as recent clients (p. 141),



Crawford Marvel-Lift Stylist is the new, sectional, garage door with all-flush, all-hardwood plywood panels electronically laminated to a corrugated, 3-ply hardwood core.

There's almost no limit to what you can do in using the STYLIST to make the small home exterior distinctive and different for this is indeed "the garage door of 1000 faces."

The flush hardwood panels may be left plain and protected with any suitable coating. Or, they may be decorated with applied moldings in any desired pattern and finished in rich and distinctive colors to achieve striking and effective design.

Thus, you can put beauty and personality into one of the largest and most visible areas of the modern home frontage—the garage door. You can provide custom styling without the penalty of custom-built price for the STYLIST costs little more than standard doors and simple, inexpensive decoration is remarkably effective. The same decorative motif can be repeated in front door and shutters to produce a decorative ensemble which can be gay, charming, colorful, dignified—anything you want.

The STYLIST comes in standard and extra wide singles and in full-width doubles, and is equipped with the famous Crawford Marvel-Lift Mechanism for fingertip operation. Can be equipped with Crawford Marvel-Lift Electric Operator with push-button control on car dash.

Yourlocal Crawford Door Sales Company, listed in the Yellow Pages, can give you complete information. Call them for quick a ction — or write us for literature.

Crawford Door Co.

MAIN PLANT:

5-401 ST. JEAN AVE., DETROIT 14, MICHIGAN

FABRICATING PLANTS in Portland, Tacoma, Los Angeles, San Francisco, Dallas, Kansas City, Chattanooga, Milwaukee, Hudson, Mass., Cadillac, Ottawa, Canada.

DISTRIBUTING WAREHOUSES in 67 major cities.

SALES AND SERVICE companies everywhere.





PROVEN IN OVER QUARTER CENTURY OF USAGE RENTAL PROPERTIES

y-Cabranette Kitchens



Complete kitchen facilities . . . range (gas or electric), refrigerator, sink and storage space . . . streamlined into compact units 39 to 69 inches wide.

Proven products of an organization with over a quarter century record of proven success in specialized production of compact kitchens.

Vitreous porcelain fronts never require repainting . . . brilliant, white porcelain that stays forever clean with soap and water.

Negligible maintenance costs proven in a quarter-century record of Murphy-Cabranette Kitchens . . . largely in the hard usage of rental properties. Electrical and mechanical equipment of finest quality . . . every detail accessible for service from the front without disturbing the assembly.

If you seek tenant appeal, freedom from maintenance problems and low operating costs . . . investigate Murphy-Cabranette Kitchens.

modern range





capacious refrigerators

convenient broiler



Manufactured by

DWYER PRODUCTS CORPORATION . Michigan City, Indiana



HAVE YOU RELATED Thermopane TO FLOOR SPACE?

The fact that *Thermopane** insulating glass increases the usefulness of floor space is even more important to schools than the fact that *Thermopane* saves fuel.

Single glazed windows chill the area immediately beside them creating a "low-comfort zone" during winter. This floor space cannot be used to seat children comfortably. *Thermopane*, which is two panes of glass with a half inch of dry air sealed between, brings the comfort zone right up to the window. For all practical

considerations, it makes a room larger to accommodate more pupils—in comfort. Each year, the added area is a dividend on the investment.

Thermopane is the ideal material for achieving good daylighting. A window wall double-glazed with clear, flat glass, transmits 81% of daylight—more than an equal area of any other form of double glass insulating unit.

For further details, write for our *Thermopane* literature.

FOR BETTER VISION SPECIFY THERMOPANE
MADE WITH POLISHED PLATE GLASS

Blanket of Dry Air

Blanket of Dry Ai



A REPUTATION

Build your kitchens with Crosley

The new line of Crosley Kitchens provides modern features-exclusive features-that help you build your reputation for successful planning and building. Whether you need individual appliances, combinations of appliances, or complete kitchens, Crosley offers the finest in beauty and utility. You can offer owners and tenants extra convenience, combined with compactness that conserves floor space, provides greater storage space, and saves steps. Crosley Kitchen products are versatile and adaptable. Whether you plan single- or multiple-unit dwellings, there's a Crosley combina-

tion for the exact size and shape kitchen you have in mind. In addition, Crosley design and construction permit quick, easy installationwith a consequent saving in labor and cost. Build with Crosley today and you build a better business tomorrow.

New Crosley Builders' Plan! Special data and service are available free to all builders and architects. For information write:

National Builder Sales, Crosley Division **Avco Manufacturing Corporation** 1329 Arlington Street, Cincinnati 25, Ohio



Crosley—
Better Products for Happier Living











As soon as you SEE it, you'll say...



Never before could you get siding that looks so much like real brick and mortar.

Go to your local Flintkote dealer. Ask him to show you Flintkote's Natural-Color Mortar Joint Siding. Then stand back a few paces from the panel he shows you.

Can you . . . a trained observer of building materials . . . tell it from the real thing? You may . . . but we doubt it.

Think what that's going to mean to clients. Now they can re-side with one moderately priced material that protects, insulates and decorates. And we do mean decorates! Homes remodeled with this new Flintkote Insulated Siding present a neat, trim, attractive exterior with the authentic appearance of actual masonry.

Don't fail to take advantage of this new development in building materials. See Flintkote's Natural-Color Mortar Joint Insulated Siding today. See for yourself the sure-to-be-popular improvement that's been made. And you'll want complete details, too. If your local dealer can't supply you, write:

THE FLINTKOTE COMPANY, Building Materials Division, 30 Rockefeller Plaza, New York 20, N. Y.

FLINTKOTE ... the extra years of service cost no more!



Pride - and Yankee ingenuity

If you look only at the pictures in this issue of FORUM you will learn that there is much to stir your pride in the progress of American architecture.

You will see that Skidmore, Owings & Merrill in Lever House are giving new life and reality to the dream of the more open city. You will see that Holabird & Root & Burgee are winning world-wide acceptance for a new (and more profitable) American standard of hotel living. You will see that O'Neil Ford, with the help of William Wilson Wurster and Fred Severud, is giving America a new college campus as honest as it is handsome. You will see that Vincent Kling has given straightforward distinction to a great research center and that Don Barthelme has given charm to a well-scaled little school.

You will see that a group of young architects are pushing forward the frontiers of contemporary house design, and you will see how other architects are working with merchant builders to set a new standard for the average American home.

But when you read the type that goes with these pictures—including some of the small type too—you will find other things that will not only stir your pride but also, perhaps, help you solve some of your own design and building problems. They will stir your pride by showing you the tremendous amount of resourcefulness, research and Yankee ingenuity behind the development of these outstanding buildings. They will help you in your own work because this resourcefulness, research and ingenuity on which so many hours have been lavished are here laid out for the taking.

Not all the new details and techniques and research will be of equal value to each of you. To some it will be more important to know why the architects of Lever House put a concrete outrigger between the spandrel beam and the curtain wall, why they figured blue glass would be more economical in the long run than white, what they learned about the cost of washing windows from a moving scaffold. To others it will be more important to understand why Holabird & Root & Burgee never fix the module for their column spacing until last, why they have turned away from tall windows, why they insist on many levels in their dining rooms.

Some will profit most from learning why compression slag block was used instead of concrete arches for the laboratory floor, or how the cost of Trinity College was cut by a revolutionary new system for pouring concrete floors and "why only an evil man could make a bad design of such construction." Others still may wish to learn of the \$400 gadget that keeps Builder Ballin's houses cool in summer, or how Builders Boyer & Taper cut their foundation trenches in 15 minutes and use fork lifts to speed the shingling of their roofs.

The buildings reported in this month's FORUM are, we believe, the outstanding buildings of the month. By this we mean these are the buildings on whose design and construction the most talent and thought and resourcefulness has been lavished—the buildings from whose design and construction you can, if you choose, learn most that will be helpful to know.



MINIATURE SKYSCRAPER of blue glass and metal

challenges postwar craze for over-building city lots

... and they said, let us build a tower whose top may reach nto Heaven, and let us make us a name." (Genesis 11:4)

Ever since the Tower of Babel, pride and the desire to nake (or advertise) a name have been greater patrons of rehitecture than need and utility.

In our time it was pride and the desire to make a name that aised the skyscrapers, the first great achievement of Amerian architecture. What matter, then, if Cass Gilbert's cathelral for Woolworth gave respectability to the five-and-dime? What matter if the Chrysler spire helped sell and advertise ars? Would Singer have lavished 1950 costs on a nameless 1907 tower? Would Mr. Rockefeller have dipped so deep nto his fortune to build so well anonymously?

Until now this pride has been sadly lacking among archiecture's postwar commercial patrons in New York. These promoters were not out to erect monuments. What they sought was quick profits on a minimum investment of their own noney. They built because they could get 100 per cent loans based on capitalized leases rather than on construction costs.

Understandably, these builders did not attach their names of the buildings which made them rich.

Rockefeller Center forgotten

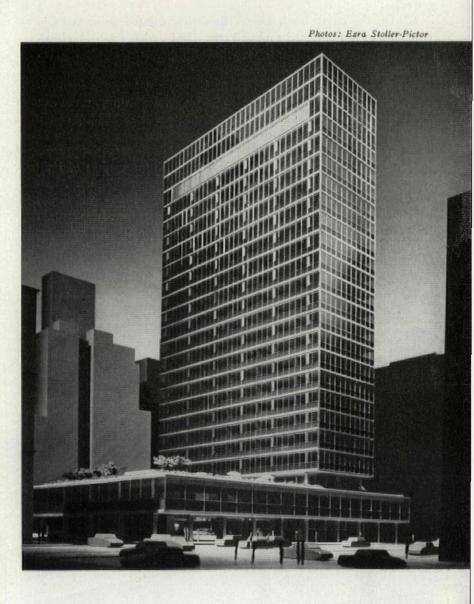
The significance of Rockefeller Center was not alone that Mr. Rockefeller built proudly and well. More importantly, he supplied dollars-and-cents evidence that widely spaced owers can be more profitable than any other buildings, that laylight and open space pay off at the cash register. Rockefeller Center is probably the most profitable as well as the finest office building development in the world, and its space in such demand today that tenants have been paid \$100,000 a floor to vacate.

Air conditioning and modern lighting upset the equation between better building and greater profits so carefully worked out by Rockefeller Center, and New York's postwar builders were too busy making easy money on bulk floors to re-think the profit formula on a creative basis. With space-starved tenants ready to pay \$5 a ft. for offices 90 ft. deep, why worry whether the deepest areas were really worth building and paying their way?

ing and paying their way?

And so overnight New York forgot the vision given substance by Rockefeller Center. With one surprising exception (the Garment Center Building), promoters bade their architects fill every inch of the city's lop-sided zoning envelope in typical pre-Rockefeller Center fashion. Even Rockefeller Center itself is encouraging a quasi-annex that uses Rockefeller Center facing and fenestration to camouflage its shift from the openness and light that made the Center great. In Portland, in Pittsburgh, and extra-territorially in the United

LEVER HOUSE
LOCATION: New York City
SKIDMORE, OWINGS & MERRILL, Architects



Nations enclave the lessons of Rockefeller Center have been remembered. But until now the postwar buildings of New York have been air conditioned throw-backs to 1926.

Miniature skyscraper

Now at last New York is getting a fine office building that carries on from Rockefeller Center, a tower built on pride and the desire to build a name rather than the chance for a quick profit.

This is Lever House, the skyscraper-in-miniature that Skidmore Owings & Merrill have designed partly to house and partly to advertise the giant soap maker. Small though it is—barely a yard taller than the 1903 Flatiron Building, much smaller than the smallest of Rockefeller Center's five main towers, covering less than a twelfth of Rockefeller Center's area—still Lever House is by far the most important commercial office building projected in New York since the war—the only imaginative contribution of private enterprise to the architecture of a more livable metropolis. Its floor space will be only six times the land area of its block front lot on Park Avenue between 53rd and 54th Streets—compared with 12 times the site at Rockefeller Center, 25 times the site at Empire State and 20 times the site in almost all New York's other postwar office buildings.

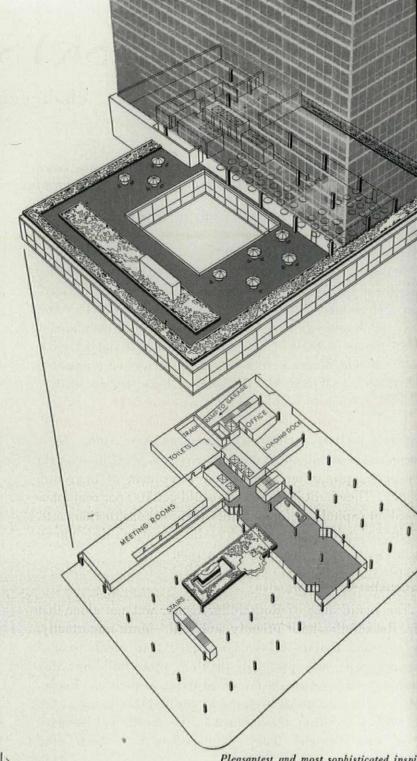
Three things will set it apart from all its block-crowding contemporaries:

1. On the street level, Lever House has created an open patio comparable to the famed sunken Plaza—and perhaps more sophisticated in being placed right under the building, creating the illusion that there is no ground floor at all.

2. Above the second floor, Lever House will take the unprecedented step of building only its slender tower, dedicating all the rest of its allowable cubage to opening up the block.

3. Almost every rentable foot will be prime office space within 25 ft, of a window.

Construction wise, Lever House is as distinctly a product of 1950 as the RCA Building was of 1930. It will have air conditioning, fluorescent troffer lighting, flush acoustical ceilings, cellular steel floors, continuous fixed windows of blue heat-absorbing glass, blue curtain wall spandrels of glass or porcelain enamel instead of solid masonry,



Pleasantest and most sophisticated inspire Lever House is the open patio beneath it trees, fountains, and planting. To help the that the building has no street floor at tower will reach the ground sheathed only glass. Around the perimeter of the block t will be protected against rain, snow and a single office floor which will in turn mounted by another garden. At the cente block the patio will be open to the sky 60 x 65 ft. open court, with trees growing it to the third floor. In the center of ti there will be a long pool like an ancien vium. The planting will extend back ur glass into the reception and exhibition are will occupy the entire space under the tou the Park Avenue front to the elevators. To make the patio possible, Lever Bros

up something like \$200,000 a year that would have paid for the Park Avenue ret tage at \$10 to \$12 a ft.



and a movable scaffold system to wash windows and spandrels alike from the outside. It will cost \$6 million to erect its 4,000,000 cu. ft. on leasehold land—nearly three times as much per cubic foot as some Rockefeller Center units erected in the depression.

To live in this fine building will cost Lever Bros, the equivalent of \$6-plus a sq. ft. rent. This is perhaps one-third more than a long term lease in one of the speculative buildings now under construction nearby,* but for that premium Lever Bros. will get good value. They will have all 21 floors to themselves. They will get only the finest daylighted offices instead of bulk space up to 90 ft, from a window. They will have quality construction throughout. And they will have the prestige and advertising value of giving their name to a fine and famous building.

If Lever Bros. had been willing to pass up the first of these advantages, however, they might have had all the others at considerably less cost. Because they wanted the building entirely to themselves, they never asked the architects to face the problem which Rockefeller Center so painstakingly solved—the problem of getting the maximum profit from developing the site.

Maximizing profits

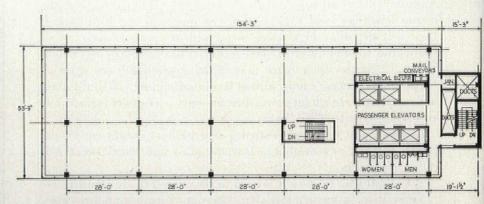
At Rockefeller Center every suggestion was measured against the profit yardstick held in the firm hands of four hard-boiled and experienced building managers. If Rockefeller Center built no bulk space, it was not because of some civic ideal but because Manager John R. Todd said: "I have never collected an extra dollar of rent for space more than 30 ft. from a window." If the RCA Building stepped its sides back from the east end, it was not just to give life to the design; it was to avoid building unprofitable deep space as the elevator banks dropped off. Before Rockefeller Center gave up an acre to the sunken Plaza, the managers studied just how much higher rents they could get from giving the mammoth RCA tower a Fifth Avenue front. If Rockefeller Center spaced its towers far apart, it was because the managers knew from experience that it pays to concentrate tower rights; that a few big towers with plenty of light would rent better than many small ones.

The Lever House architects were not asked for any such study of how to maximize profits. They were told only that Lever Bros. needed 150,000 sq. ft. of office space and wanted the whole building to themselves. As the ideal solution to that particular problem they proposed building nothing above the second floor except the tower—a solution which conformed closely to Nat Owings' ideal office building project described in Forum for August 1949, except that because of the smaller Lever lot a tower covering only 25 per cent of its area would be one-third smaller gross and 40 per cent smaller net. The client accepted this suggestion enthusiastically, and thereafter the only schemes considered involved different locations for the tower. Consequently no new formula for maximizing profits through better planning was worked out to replace the Rockefeller Center formula outdated by the new value given to deeper space by air conditioning.

Lever House must be studied as a model of contemporary design and up-to-the-minute construction techniques. But it would exert a greater influence on other building ventures if, like Rockefeller Center, it could also be studied as a model of profitable development. Other builders may be ill-advised to put so much faith in the long term rentability and profitableness of deep space, but unfortunately that faith is not likely to be upset by the example of the only major postwar office building in New York that cannot budget a very handsome profit on \$5 rents.

You can't please everyone

With one or two lonely exceptions like the now out-of-fashion New York Central Building, Lever House marks almost the first attempt to erect a really fine building on Park Avenue, which owes its charm



All the tower floors will have 8,700 sq. ft. gross, with around 6,000 sq. ft. of usable office space after deducting outside walls, toilets, elevators and elevator shafts. Most floors will have private offices along the south wall, open offices toward the north. Everything east of the elevators is offices. Everything behind and west of the elevators is service. The space behind the south elevators will be two-thirds coatroom and one-third message center.

The west end of the tower will be cantilevered 5 ft., the east end 9 ft. 8½ in. The longer cantilever will be dramatized by cutting the tower back to the column line at the third floor (see photo below).

The second floor will cover the entire block around the open court to provide space for the typing row and the message center. The third floor, enclosed in glass from floor to ceiling, will hold the employees cafeteria looking out on the terrace gardens.



^{* 200,000} sq. feet in any existing building was out of the question at any price.

only to its width and the uniformity of its apartments. But Park Avenue is not at all sure about welcoming this distinguished but different newcomer, and some unexpected questions are being asked. How will the shiny blue tower blend with the sooted bricks? Can continuous windows ever harmonize with a box-with-openings neighborhood? Is the open space around the tower worth the price of breaking the Avenue's long, almost level rooftop line? Will the glass and metal skin absorb less noise than masonry? (Answer from M.I.T. acoustical experts—"No.")

In times past neighbors feared a new building might cut off the light. Now Lever's neighbors fear the glass and metal tower will reflect too much.

Which all goes to show it is hard to please everybody at any price. Lever Bros. is financing construction out of its own cash reserves, but after the building is finished Metropolitan Life will buy all or part of it and rent it back to the soap company on a long term net lease which will amortize the building in 28 years, after which the payments will be greatly reduced. The annual cost of \$6 plus a sq. ft. will probably work out something like this:

ite \$175,000	Ground rent to the Goelet E
	Payments to Metropolitan
	Taxes on \$6 million at 3 pe
200	Operating costs at \$1.25 a f

The building has been sent out for competitive lump sum bidding, with many alternates in the specifications.

Among the more interesting construction features are these:

Spandrel curtain wall will be either blue wired glass with an air space behind it like the United Nations Secretariat or a sandwich of blue porcelain enamel and silicate asbestos like the General Motors research center. If glass is used there must be an air space behind it, with openings for the heated air to escape. Only a 4 in. cinder block backing will be needed with the porcelain enamel sandwich facing, but an additional 2 in. insulation of foam glass will be necessary behind glass. The wind load will be carried by the beam-to-beam mullion framing.

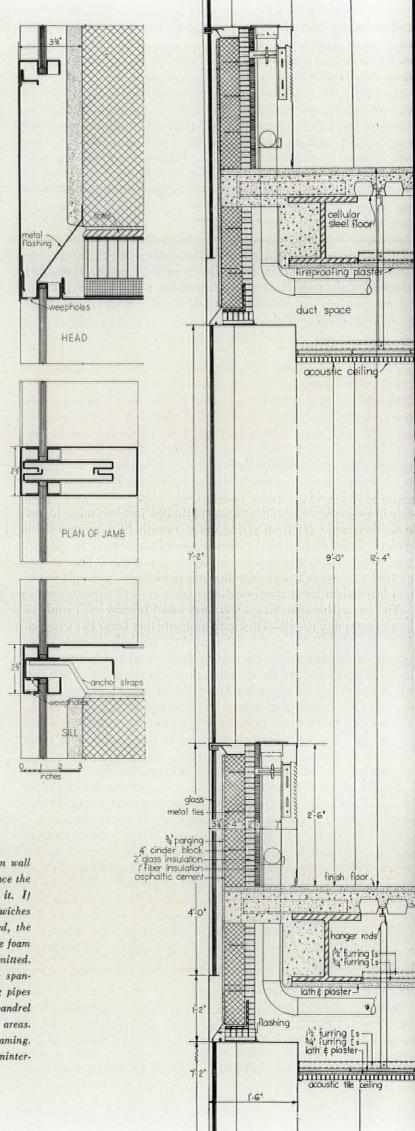
Flush exterior contrary to the United Nations Secretariat practice, where the framing around the exterior glass is made 4 in, deep to cast shadows and accentuate the pattern, the stainless steel frame on the glass or porcelain enamel on Lever House will project only 1 in. The mullions will be $2\frac{1}{2}$ in, wide. There will be one broad 14 in, horizontal band at the window head, a narrow $2\frac{1}{2}$ in, band at the sill line.

Ceiling height will be 9 ft., but the floor to floor height will be 12 ft. 4 in.—10 inches more than Rockefeller Center. The windows will be 7 ft. 2 in. high, with the sill 30 in. up from the floor to match the height of the air conditioning units.

These details show how the exterior curtain wall would be framed if wired glass is used to face the spandrels, with an open air space behind it. If porcelain enamel and silicate asbestos sandwiches are used the air space would be eliminated, the curtain wall would be made air tight, and the foam glass insulation of the back-up could be omitted.

The concrete arch outrigger outside the spandrel beam is designed to facilitate running pipes and ducts through the floor. Inside the spandrel cellular steel floors will be used in all office areas.

Wind load will be taken by the mullion framing. The exterior wall and windows will run uninterrupted past the columns.



Cellular steel floors: All floors east of the elevators will be cellular steel except that between the spandrel beams and the exterior facing there will be a cantilevered concrete outrigger through which pipes and ducts can be brought up more easily. Concrete arches will be used under the toilets, in the elevator lobbies and throughout the service core end of the tower.

Cost analyses showed the cellular steel would be less expensive than concrete arches with electrical conduits on 6 ft. centers. They offer the further advantage of speeding construction and giving complete flexibility for under-floor wiring.

Elevators: The architects are acting on Lever Bros. surprising assurance that there will be little inter-floor traffic and are providing a maximum of only six elevators for 21 floors. Even one of these will be left out until the building population grows from the starting figure of 1,050 to around 1,250. The service elevator will go only to the kitchens on the third floor, but behind the south line of elevators is a continuously moving correspondence conveyor (on which cost estimates range from \$40,000 to \$70,000) to carry papers to and from the message center on the second floor.

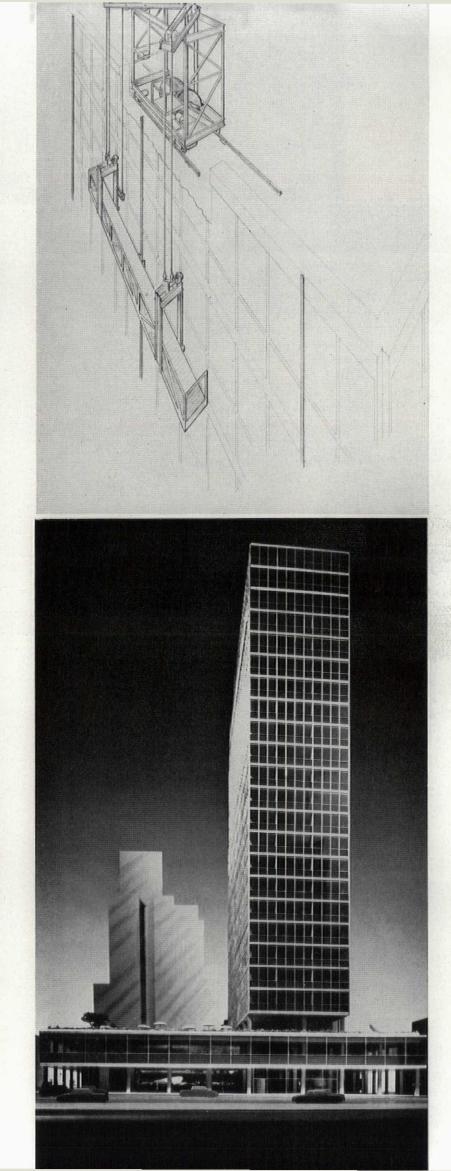
Air conditioning: The air conditioning is being designed for a window unit at every window on the south side, a double unit for every window pair on the north side, and a line of seven ceiling diffusers down the center of the tower. As an alternate, bids will be accepted on an ultra high velocity ceiling distribution system.

Lighting: The 4 ft. 8 in. module of the windows will also be followed by the lighting, with a line of seven 4 ft. long fluorescent troffers across the tower lined up with the window centers.

Garage: There will be parking space in the basement for 80 cars.

Windows: The architects made a 31-page study on the construction and 20-year maintenance cost of double-hung vs. fixed sash, white plate glass vs. heat absorbing glass, single vs. double glazing, aluminum vs. stainless steel frames, and most particularly of the cost of washing the windows from an electrically operated exterior scaffold. The surprising conclusion is that washing fixed sash from a scaffold would cost \$5,652 a year for 1,404 windows, compared with an experience figure for Rockefeller Center, Metropolitan Life, and four window cleaning companies of \$7,226 for double-hung windows washed in the conventional way. The fixed sash would cost roughly \$90,000, or 30 per cent less to install-more than enough to cover the \$50,000 first cost of the scaffold. Fixed glass would offer a further saving of more than \$4,000 on the heating and air conditioning cost per year through less air leakage. These figures assume that with air conditioning the inside of the fixed sash need be washed only once a month and that in washing the outside twice a month each of the two men on the scaffold could average 11/2 minutes per window, whereas a window washer doing both sides of a double-hung sash in the conventional way would average 78 windows in an eight-hour day.

Heat absorbing glass for 1,404 windows would cost \$28,000 more, but would cut the initial cost of the air conditioning equipment \$32,300 and would save another \$500 a year on the operation cost of the cooling system. Double glazing with the outside pane heat absorbing would add \$135,000 over single white glass to the installed cost of the windows, save \$90,000 on the first cost of air conditioning. In the long run it would be the most economical, however, since it would cut air conditioning operation \$3,600 a year. These price comparisons, of course, overlook the further advantages of heat absorbing glass in reducing glare and the further advantage of double glazing in taking the chill off the office space nearest the windows. First bids on stainless steel window frames were roughly \$70,000 or 20 per cent more than aluminum.





HOTELS

HOLABIRD & ROOT & BURGEE & ASSOCIATES, Architects

For anyone who wishes to learn how to build a successful hotel there is one clear path, and it leads to the door of a firm of architects in Chicago. In a field where failures have been frequent and notorious, the hotels of Holabird & Root & Burgee have the air of sweet success, and the latest ones are positively roaring with it. No wonder then that the hotel empire of "H & R & B" is rapidly encircling the world, and in a very few years the firm will be able to boast like the British Empire, that the sun never sets on it. At the moment the architects' international client is Intercontinental Hotels Corp. ("IHC"), subsidiary of Pan American Airways. The most advanced of its projects are three houses in Colombia and Venezuela, which can now be previewed in some detail. But IHC has 11 others in various stages of progress in the capital cities of Central and South America; it has them in Tokyo, Saudi Arabia, South Africa, Istanbul, Madrid, Lisbon, Stockholm and Copenhagen. No American architectural firm has so dominated a world-wide field of endeavor since the globe-circling industrial work of the late Albert Kahn.

Like many another successful outfit, H & R & B makes no secret of the major principles that guide its successful work—the principles that have so eluded others. If one examines this record, one fact stands forth instantly. The office has associated itself with those hotel men to whom building is a regular habit giving an opportunity for steady practice and the development of systematic research. The trouble with most hotels, to quote Byron Calhoun, the energetic vice-president of Intercontinental, is that the owner builds just one of them in a lifetime; he has no chance to apply what he learns from his mistakes, and there are very few architects who have designed more than one hotel. The consequence is that the ordinary operator and his architects work by rules of thumb which are worse than nothing if they are not true.

Why build at all?

The general situation was made apparent by Forum's independent check of the hotel field. Failures have been notorious and the fact that 81 per cent of American hotels defaulted on their bonds during the depression has been ascribed "not to defects inherent in the business but to over building." It would be more accurate to ascribe it to the fact of bad building rather than over building. To protect themselves against those haphazard procedures hotel operators today have taken two different tacks of action. The Hilton chain in its 1949 Annual Report made it virtually a cardinal principle not to invest its own funds "in new construction under present high conditions," but "either to acquire going properties . . . or to induce others . . . to build properties" that can be profitably leased. By this means the investment base is broadened, Hilton's risk diminished.

Another approach has been Statler's policy of reinvesting its own funds in building comparatively few new hotels under a unified operating policy. In either event the key factor in assuring success is getting to be the research approach to building. In memory too recent for comfort there have been colossal boners perpetrated by one-shot amateurs. Statler formulated a concept of hotel service and built to it. This permits each subsequent hotel to be built on the experience of its predecessor, and develops a steady line of progress. It keeps the

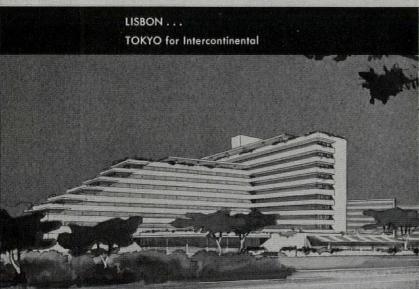
WASHINGTON D.C. for Statler

edrich-Blessing Studio



SAUDI ARABIA . . .





ircling the globe make Holabird & Root & Burgee, Chicago architects, the world's teachers of up-to-date notel planning. Working closely with clients such as Intercontinental Hotels, they design from the inside out—starting with a workable daybed, ending with a favorable balance sheet

notel man eagerly meeting new demand instead of fighting a grudging pattle against obsolescence. The fact that new building, even at tolay's costs, can pay off is dramatically illustrated in Washington, where the new Statler built at war prices is reputed to be Washington's most successful hotel.

Though IHC is a new firm, its heads are experienced and successful men. President Wallace S. Whittaker and Vice President Byron Calnoun are proud to claim that, like Statler, they are devoted whole-heartedly to the research approach. And both of them, scanning the field for changes in demand, believe that changes in travel, advances in comfort standards, and ideals of service have been too rapid and radical for most existing buildings to keep up with through remodeling. In concentrating on the market potential rather than on stop-gap measures IHC is working hand-in-glove with its architects.

"The up-to-date American commercial hotel"

In the minds of these men the changes which tend to make existing buildings obsolete can be summarized as follows:

First, the public travels lighter. Guests come by plane and car as well as by train or ship and they weigh their luggage carefully by the pound. An H & R & B man tells of meeting a Sears-Roebuck representative in Saudi Arabia, on the other side of the globe, contentedly traveling with two nylon shirts as his complete change of linen. This lighter luggage means that large trunk rooms, inherited from the European hotel, are obsolete, and the old highboys in guest rooms can be replaced by a luggage stand and a few drawers. But in order to care for their fewer things, people now need a dependable valet service for quick laundry and dry cleaning.

Second, by far the majority of the hotel's guests arrive on rubber tires, and increasingly by highway. In 1948 the American Hotel Association published a pamphlet on How to Sell the Motor Traveler based on a poll which declared that 86 per cent of all travelers would prefer to come on rubber, and among vacationists the percentage was 91. The first effect of cars is to open up locations off the main drag or farther out. These sites are open, quiet, attractive, inexpensive, compared to the congested, noisy, costly situations of the main downtown corners (the land under the Plaza in New York is valued at \$77.60 per sq. ft.). H & R & B's Tamanaco Hotel for IHC at Caracas (page 96) will lie five miles from the shopping center at a magnificent spot against a mountain background, but a new superhighway will make the distance not over ten minutes. Tamanaco therefore significantly becomes a "resort" hotel that can compete with the local "commercial" hotel for business travelers; and in future the combination of resort and commercial will be more frequent.

In U. S. towns of 100,000 or less, the car is credited with still another effect: it made the motor court so serious a rival that many hotels are contemplating their own outpost courts. But regardless of motels the effect of cars is to create tremendous leverage in favor of a new hotel with garage or parking attached. Even the guest arriving by plane may rent a drive-self car at the airport for the duration of his stay, choosing a hotel that gives him the chance to take care of it; and arrangements are now under way by which travelers may be able to drive such a car to the next town and leave it.

Still another effect of the rubber tire, and a tricky one, is the problem of correct access, involving not only the guest's own car but taxis. Even the motor entrance of the Washington Statler, nearly perfect in being situated off-street and under cover, has taught its architects something: taxis tend to ignore it and to land their charges at a less convenient second entrance because the motor entrance lands the driver in a back street where there is no chance to pick up another quick fare.

Third, travelers demand higher comfort. Air conditioning for guest rooms alone requires at least \(^3\)4 ton of refrigeration per room at an installation cost of \(^400\)0 to \(^600\)0 per room not to mention annual operation costs. Radio and television are far easier to install in new hotels than in old, and are rapidly becoming indispensable.

Higher wages and better working conditions. Payments to personnel may take up as much as 35 per cent (Statler) to 41 per cent (Knott hotels) of total income, and IHC reports that some wage scales abroad have increased 400 per cent in recent years. In some foreign countries where actual monetary wages are less than 20 per cent of the gross, lower efficiency offsets the lower wages; one maid may be expected to care for less than 10 rooms, while in the U.S. a maid is expected to make up from 14 to 18 rooms.

What outmodes the older hotel more rapidly than anything else is the labor cost of wasted steps. By careful planning which eliminates a single checking station in the kitchen of a large hotel, now abuilding, the labor budget has been cut \$25,000 a year. Again, when H & R & B lay out their air conditioning, they try to concentrate fan rooms on single floors. In the Los Angeles Statler the usual pipe transfer space beneath the guest room wings has been enlarged to house all air handling equipment. The purpose is not only to save on pipe runs and ducts but to put the whole installation within easy supervision range of a single engineer instead of requiring several. Still further step-saving expedients are necessary in the kitchen. It goes without saying that a new step-saving building has first pick of the best hotel employees.

Higher materials costs might be considered a disadvantage in new building; they induce tight planning. But modern hotel men are convinced that the public, much as it loves space, loves new equipment more. To pay for new materials and services it is necessary to cut non-essential space to the bone. And this cannot be done without also improving the organization of the hotel plan. The result is to save not only on personnel time used in the daily operation of the building but also to save on maintenance items such as painting. So important is this compactness that H & R & B have set themselves a top figure of 6,000 cu. ft. per room as the total allowance for all facilities in the hotels of 400 rooms and more. (Some operators think the optimum hotel size is close to 500 rooms; others put it closer to 1,000.)

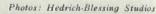
In looking over the many different plans for IHC as well as for the new Los Angeles Statler, plans done for so many countries, with different climates and different kinds of clientele, and done with different associates, one of the architects remarked thoughtfully, "I guess when you come right down to it they are all of them based on the American commercial hotel."



From their recent experience with the Washington Statler the architects learned about motor access.



Impressive lobbies leading to banquet rooms have helped make the war-built Statler wonderfully profitable; but on principle public areas are held down.





Whether or not it is physically combined with the lounge, the arrival-and-departure lobby should be a self-contained compact unit.

Rooms. To begin with, the American commercial hotel is designed to no preconceived architectural concept. In H & R & B's careful procedure, the design begins with a unit guest room. Indeed it begins farther back with the complete redesign of the bed and rearrangement of the furniture. John Root is still astonished at the way they tackled guest room planning in the Twenties. Room sizes were arbitrarily agreed on without study of the room's use. Column spacing, window arrangement and the like took charge. Afterwards there was hell to pay trying to fit in the furniture. The present technique of designing rooms with the aid of full-scale mockups is so important that it is more fully described farther on (pages 94, 95).

The guest room is so important because room rents are the backbone of the hotel's income. They normally account for about 70 per cent of the hotel's receipts, and Calhoun declares that the hotel should retain 70 to 75 per cent of its room receipts as an operating profit (profit before rent, taxes, interest, depreciation and insurance). (The corresponding rates of operating profit would be: food service, 20 per cent; beverages 30 per cent.) Hotel accountants, such as Horwath & Horwath or Harris, Kerr, Foster & Co., relate all hotel income factors to the room count of the hotel.

Once the basic room has been designed, column spacing can be determined. With maximum efficiency the up-to-date hotel assigns at least 60 of today's smaller rooms to the floor—though special reasons may cause a deviation. (The Bogota hotel, seen on page 100, has 28 rooms to the floor for the sake of a higher silhouette and better visibility from afar.)

Public areas. H & R & B try to keep the total cubage of the hotel within 6,000 cu. ft. per room, which takes some doing. Normally the cubage of public and service space must be held to 40 or 45 per cent of the total. This means smaller lobbies. Most of today's guests are embarrassed rather than pleased at entering a palace under the guidance of bellhops as heralds. In large hotels H & R & B like to separate off a convenient and limited entrance area to be devoted entirely to arrivals and departures. It contains the registration desk and the cashiers, the transportation desk, baggage checkroom, bell captain's post, and the desk or office of the assistant manager. The elevators, close by, serve as a dividing shed between the entrance lobby and the social lounge. The guest goes up from the entrance area to get settled in his room. He comes down and turns the other way into the lounge to find his friends or choose his dining room. With nice tact, H & R & B hold this public lounge area down. There are no dividends for the hotel in supplying a dating center for all of the community's cupids. In smaller hotels of 500 or fewer rooms there is less opportunity for such articulation.

Food service. Though it's all a hotel can do to break even and better in supplying food, without it the hotel would lose its chief revenue boosting devices, such as conventions. Just as old rules of thumb are useless in designing a modern guest room, where 3 in. one way or another make the difference between being able to accommodate the furniture or not, so the architects find no rule of thumb for sizing dining rooms and kitchens. Roughly, the dining area usually exceeds the kitchen area (including storage) slightly (Stevens, 123 per cent; Palmer House, 127 per cent; Boston Statler 1181/2 per cent; Washington Statler 96 per cent). But looking forward H & R & B can see the ratio varying all over the lot. And just as IHC in its guest room studies has abandoned rules of thumb and started with redesigning the bed, so in its kitchens it now abandons rules of thumb and starts always with the menu the hotel will offer. Obviously a menu that offers 30 entrees to choose among will require more square inches of cooking surface (and more cubic inches of storage) per seat than one which offers six. So, too, especially in working abroad, there are vast differences in availability of food-meat or vegetables, fresh or preserved-which completely change the processes of preparation and their space requirements.

Food prefabrication. In the U. S. itself, however, there impends a basic revolution: food prefabrication. Already Stouffer's restaurants, famous for their efficiency, get their potatoes delivered peeled. And Swift or Armour will be able to cut down kitchen operations tremendously for the hotels if numbers of hotels can get together and decide to have their chops and steaks cut to standard thicknesses and delivered wrapped. All of which means the elimination of butchering and saving of space in kitchens.

Today's and tomorrow's kitchens, as one may see them in H & R & B's plans, are turned broadside to the dining rooms, instead of being at one end, so that serving can occur quickly by short routes from numerous serving stations.

And today's dining areas, in direct contradiction to yesterday's, are broken by every open planning device—change of level, change of shape, change of placement—into smaller more intimate units, so that the diner and his friends may find a variety of seats to choose from and so that they may enjoy a degree of privacy while they are still part of the whole show.

Rules of thumb, or direct inquiry?

What H & R & B and their clients stress above all else is the need in hotel business for direct inquiry into the market to replace rules of thumb. Pairing up for their exhaustive preliminary surveys, H & R & B and IHC found that you can't even trust the census of available hotel rooms in the ordinary U. S. city, let alone abroad—it is better to have a field check. And such a thing as a fixed ratio between population and hotel beds does not exist; the market can only be established by on-the-spot inquiry into the travel habits of commercial and other travelers arriving by different conveyances. Such details as the labor situation and food and water sources are checked with industrial acumen.

Rules of thumb are unreliable. Supposedly every hotel should balance its guest rooms with "banquet" facilities-really places for local organizations to meet and eat in-but the successful new Terrace Plaza in Cincinnati virtually foregoes them and is little more than a dormitory (because its parent hotel the Netherland Plaza has them) and the Washington Statler on the other hand makes a terrific profit crowding only 850 rooms on a tight piece of land, because it has two floors of eating and meeting rooms, result of being aware that Washington was short of convention facilities. Even room rates don't follow the "rules." Twenty years ago a rule was established that the daily rate should be \$1 for every \$1,000 investment per room, and learned tabulations exist to prove it; but today's average construction cost alone, in the U. S., is estimated by H & R & B at between \$10,000 and \$12,000 per room on which average daily rates will nevertheless be closer to \$8 than to \$12. Percentage of occupancy is tremendously important to any hotel. Some authorities think 80 per cent occupancy is the break-even point. Yet this too depends on factors that are highly variable. For example the Stevens and the Palmer House in Chicago, that were bought in at a value greatly written down, would meet all costs today at 50 per cent occupancy, in the opinion of their operators; whereas the Waldorf, in the same hands, had to take in \$17.6 million last year, despite 91 per cent occupancy, to keep \$696,000 under its special circumstances. IHC figures that it will make a profit on the hotels H & R & B are designing for it, even at 60 per cent occupancy, because the buildings look forward into the future and are designed to a researched market, instead of trying by rule of thumb to adapt a structure designed many years ago for totally different conditions and purposes.

As Calhoun says, "Other industries build a plant to create some product. In the hotel business, once the plant is built the product has already been created. What the hotel man has to sell is the building he operates. It is of incredible importance that it be the right building. Under today's new conditions I will take a well-organized new building every time."



Any dining space, especially a breakfast room is improved by being open to a sunny view out, as exemplified at the Statler . . .



. . . And the new Tamanaco shows the added effect of arranging the seating in varied patterns and on different levels, to give a grandstand effect.

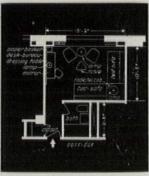
Step-saving in the kitchen is a cardinal requirement for efficient operation, and the up-to-date version is organized with well-defined serving stations.



KEY PLAN ELEMENT: improved unit bedroom has nice sitting room, and organized dressing space

The revolution that has transformed today's hotel planning began in earnest at the Washington Statler through the conversion of the old-fashioned "bedroom" into a 24-hour guest room; this was achieved by the conversion of the "bed" into a "day couch." The next move was to rearrange the furniture, transforming the hotel room into a compact little one-room apartment. At Statler the conventional placement of twin beds with their heads to the partition wall (easy to occupy, easy to care for) was replaced by a conversational grouping within the same amount of space—actually in even less. Because beds were longside to the wall (photo below) the middle of the room was free and the room looked bigger. The Hedrich-Blessing Studio



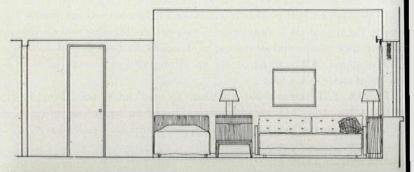


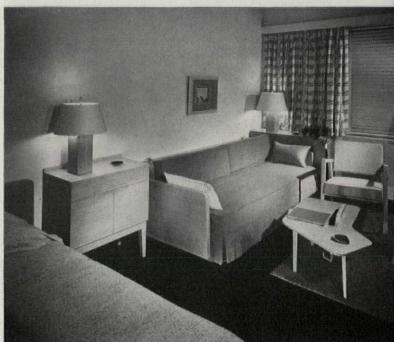
Statler bed was already an improvement on the familiar hotel "daybed" which has so often been a makeshift affair, uncomfortable to sleep in, hard to make up, and unalterably attached to one spot where it has been "built in" for the sake of anchoring the heavy pull-out mechanism.

In working out still further improvements with IHC, the architects got the benefit of three years' collaborative development work by an important bed and mattress manufacturer. First, the bed was given a sturdy frame, entirely independent of the wall and easily movable. Next the bolster was attached to this frame. From either end the maid can trip a lever on top and release the powerful spring mechanism that sends the bed out, rolling on rubber casters. The rear casters move on a smooth track. The front ones move on the carpet and are 3 in. wide so as to leave no conspicuous marks. For use as a daytime couch the bed is pushed back in under the bolster, compressing the spring mechanism again until it locks. A ship-shape detail is that the head and foot boards move out with the bed instead of being fixed to the back. These boards can be removed altogether. Pillow storage is in a compartment at the window end of the bed.

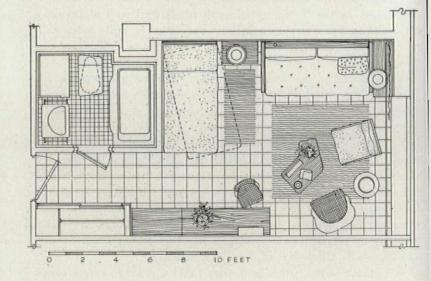
Another very important reorganization of the room for IHC is the use of the vestibule, which the conventional hotel wastes altogether, as the dressing area logically situated alongside the bathroom. To do this, H & R & B have moved the dresser from its usual bumpagainst-the-wall situation (plan above) and incorporated it in an organized storage sequence, starting with the clothes closet next to the entrance door. This includes the luggage rack, the dresser drawers, and finally the combination writing desk and make-up table—all looking like parts of a single piece of furniture. The luggage rack has a stainless steel shelf that can be utilized as an improvised room-service bar.

Although the Tamanaco Hotel, for which this mock-up was made, lies in a perfect climate requiring neither heating nor air-conditioning, the window pattern fits to an air-conditioning standard—it reaches almost from wall to wall but is only 4 ft. 6 in. high to reduce possible cooling loads. Lamps are individual, portable. (Fixed lights produce fixed furniture arrangements; fixed arrangements produce worn spots in the carpet.)

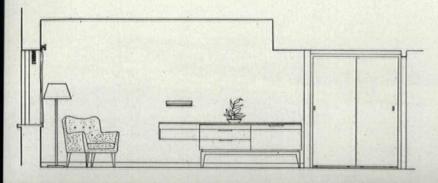




DAY—The "day couch" seen above is part of a small sitting room, and will be made up as a bed only in case of double occupancy. The bed in the foreground is a standard single bed. The furniture is scaled down in height to increase apparent spaciousness of the room whose ceiling is less than 9 ft. high. The dimensions of the room unit as a whole, including bathroom and vestibule, are 11 ft. 5 in. by 21 ft. 2 in.; of the room alone, 11 ft. 5 in. by 13 ft. 11 in.



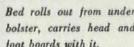
restibule, based on improved furniture

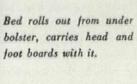


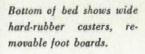


NIGHT-bed is pulled out, makes a bedroom.

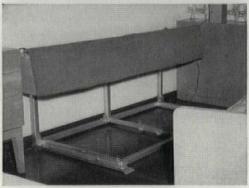
Sturdy frame, independent of wall has powerful springs and channel-shaped tracks.





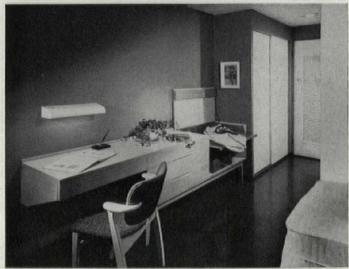


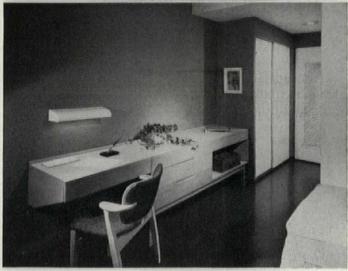






Photos: Schnall





Entryway dressing room. Clothes closet, luggage rack, dresser drawers, combination writing desk and make-up table as a coordinated storage group.



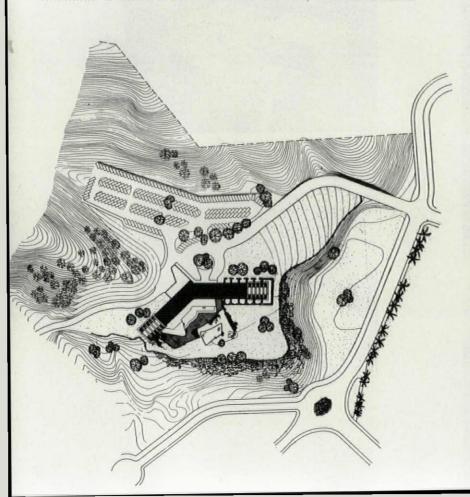
Dressing stand in bathroom was a bright idea, finally dropped to save cost of extra mirror, and align all plumbing fixtures back-to-stack.



Hedrich Blessing Studio

TAMANACO HOTEL has grandstand terrace suites and grandstand eating spaces but its basic rooms at

LOCATION: Caracas, Venezuela GUSTAVO GUINAND, Architect and Engineer HOLABIRD & ROOT & BURGEE & ASSOCIATES, Associate Architects

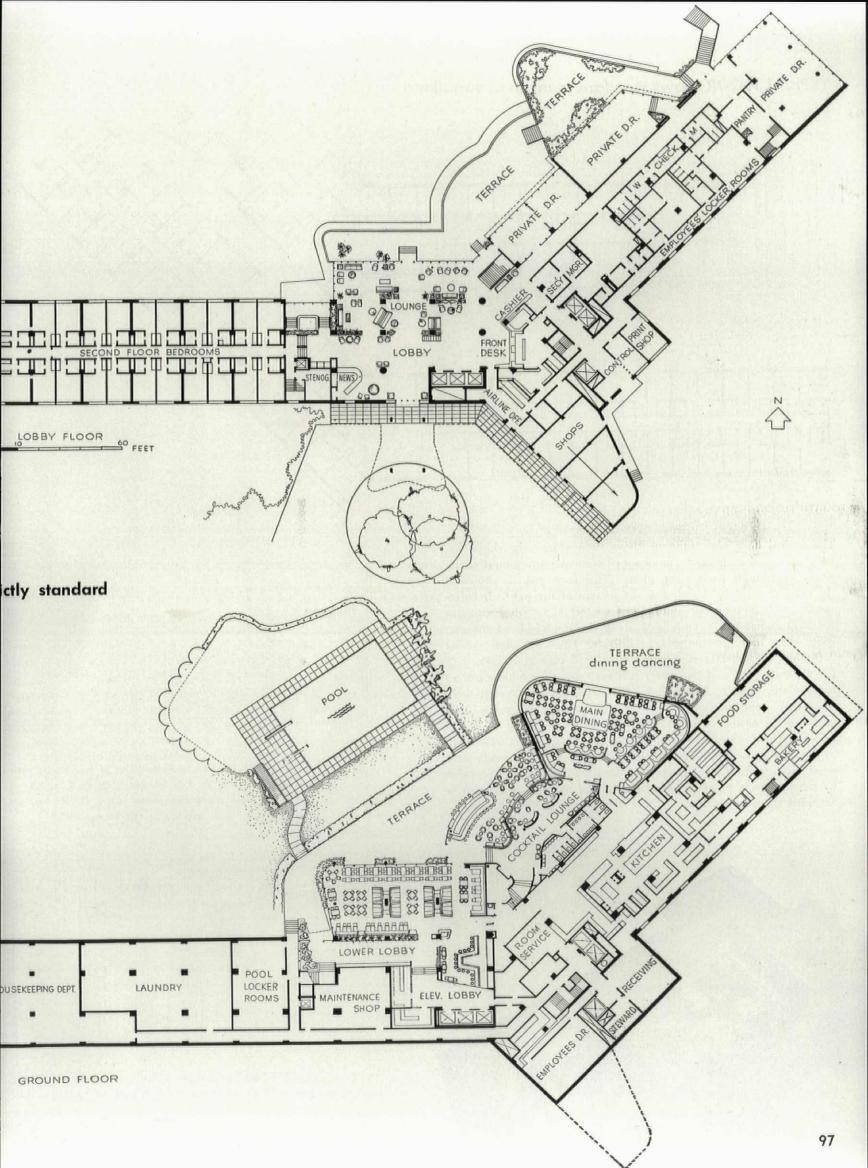


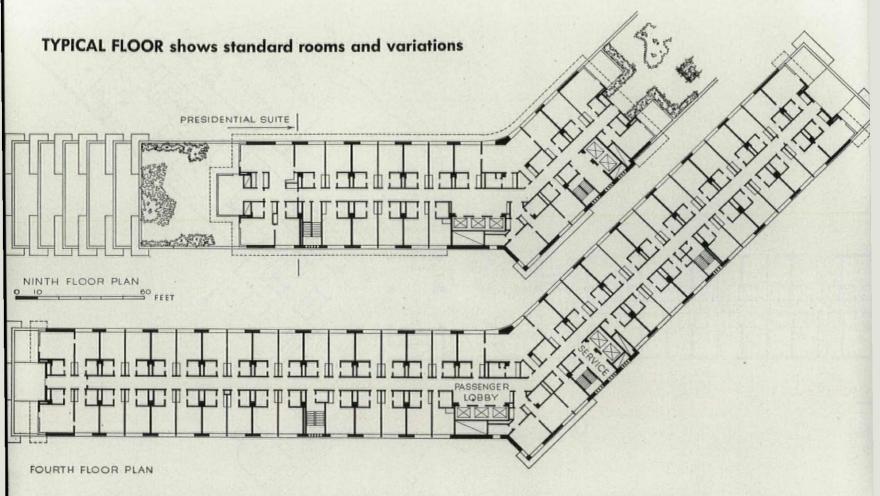
Better than any other example the terraced Tamanaco illustrates Intercontinental Hotel Corp.'s threefold appeal to tourists, business men, diplomatic emissaries. IHC, a wholly owned subsidiary of Pan American Airways, helps local investing groups get American loans through the U. S. Export-Import Bank, gives them help on planning, management, purchasing, to erect hotels wherever Americans travel, incidentally helping their respective countries build up dollar balances. IHC's architects are associated with local men.

Because of the pressing hotel need in oil-rich Venezuela, the Tamanaco supplements the Rockefellers' Harrison-designed Hotel Avila in Caracas (FORUM, June 1946).

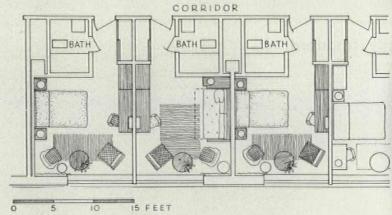
The Inca-pyramid terrace profile exists to give premium exposure and outdoor living to top-priced suites, in a climate like Paradisetemperatures seldom vary outside a 60 to 85° range (and the hotel requires neither a heating system nor air conditioning). Rooms face approximately north and south, and the sun favors one side and then the other according to the season because the situation is so close to the equator. The plan is bent to fit topography and the bottom of one canyon is used for a parking lot. All rooms have magnificent views except south rooms in the east wing, which lies somewhat close to the hill-side; accordingly the low-rate rooms and singles are there. (The basic room is shown on the two preceding pages; variations on the next two.)

Using the ground slope, the architects have arranged a fascinating series of dining rooms, grills, and cocktail lounges in a falling series of levels, so all of them give an unobstructed grandstand view of the swimming pool and the big terrace. (See plan opposite.) Because virtually all food is imported, the kitchen has a large area devoted to storage.

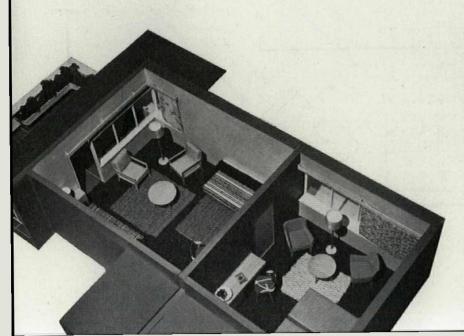


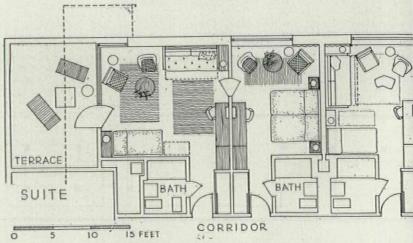


The typical floor plan (above) shows at a glance the simplicity, regularity, and economy to be obtained from sticking almost exclusively to a single basic room plan. (This basic plan is shown at the extreme right in the plan at the bottom of the page. It corresponds with the mock-up shown on pages 94 and 95.) Variations occur in rooms at the ends, and along the south side of the east wing where they face the close-by hillside. These are shallower by 2 ft. than the others and contain single or double beds instead of two separate beds, and they carry a lower rate. (See middle row of room plans, right.) At the ends of wings, next to terraces, there are larger rooms that can be used as bedrooms but will more likely serve as the sitting room in combination suites (photo of model below). The guest room next door can then be opened into the suite to serve as its bedroom element-or it can be sold separately as a guest room to itself. The connecting door has been carefully placed by the architects so as to swing free of the day couch when it is extended for use as a bed.

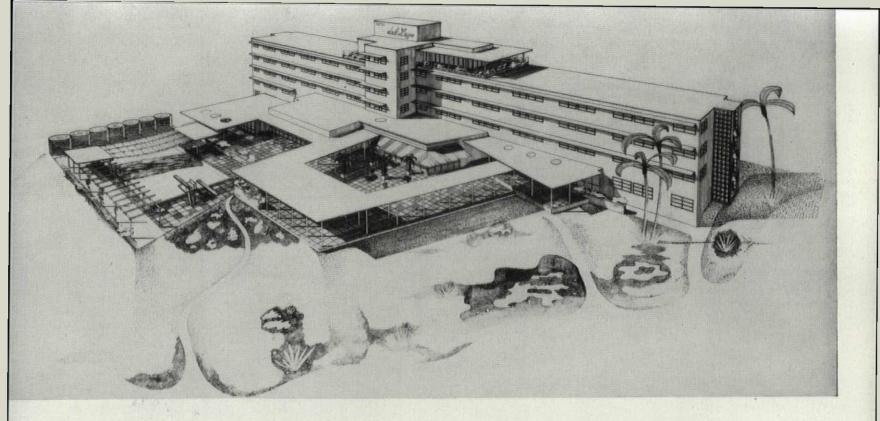


SMALLEST ROOMS retain width of 11 ft. 5 in. but their total depth is 19 ft. 2 in. instead of 21 ft. 2 in. Use of day bed alone yields nice sitting space. Double beds are preferred by some travelers (single or married).

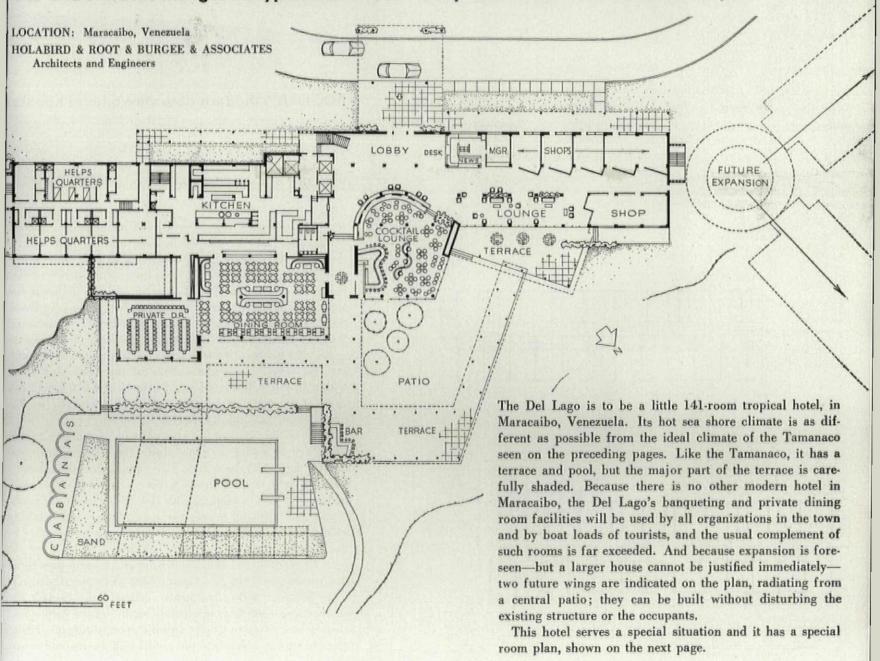




SUITE, seen in model and above, consists of terrace, living room, and conventional bedroom made up with twin beds. Each room has its own bath so they can be rented separately if desired. Room at right end is the basic type.

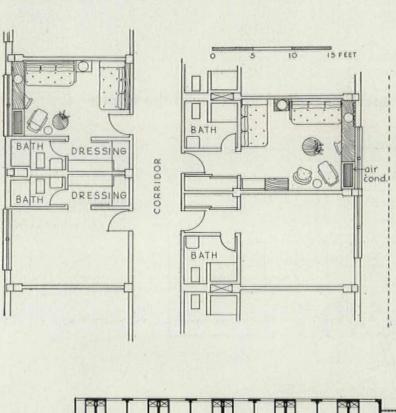


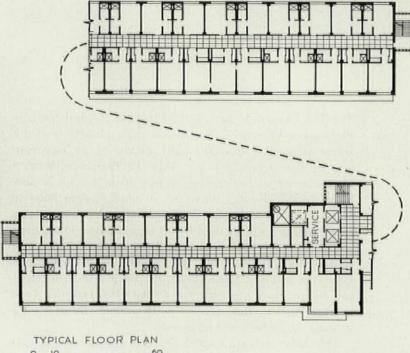
DEL LAGO HOTEL changes the typical rooms to suit the special needs of travelers in the tropics

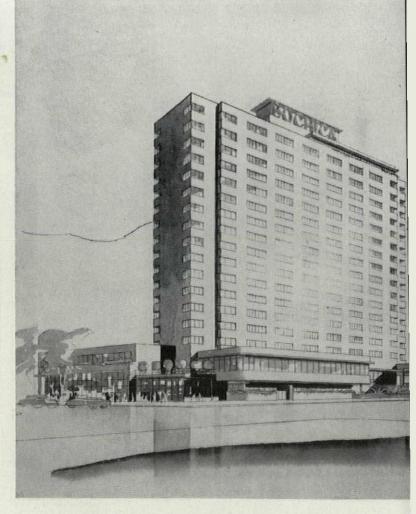


DEL LAGO'S rooms are modified by special bathrooms and by air conditioning

The Maracaibo rooms differ in some details from the basic type of the Tamanaco. Because of the hot weather and water scarcity most of them are equipped with showers instead of baths. The south rooms, facing a less desirable view, are specially designed for use by technicians enroute to or from the oil fields. The bathrooms and dressing areas are taken from the end of the guest rooms and put alongside. This gives a larger dressing room with ample storage but the guest room is deprived of the privacy given by vestibules. Net room dimensions are the same as Tamanaco's. The guests' desks face the window and are integrated with air conditioning units to be supplied with chilled water from a central source.







BOGOTA'S modern downtown hotel has stor

LOCATION: Bogotá, Colombia

CUELLAR, SERRANO, GOMEZ y CIA., LTDA. Architects, Engineers, and Builders

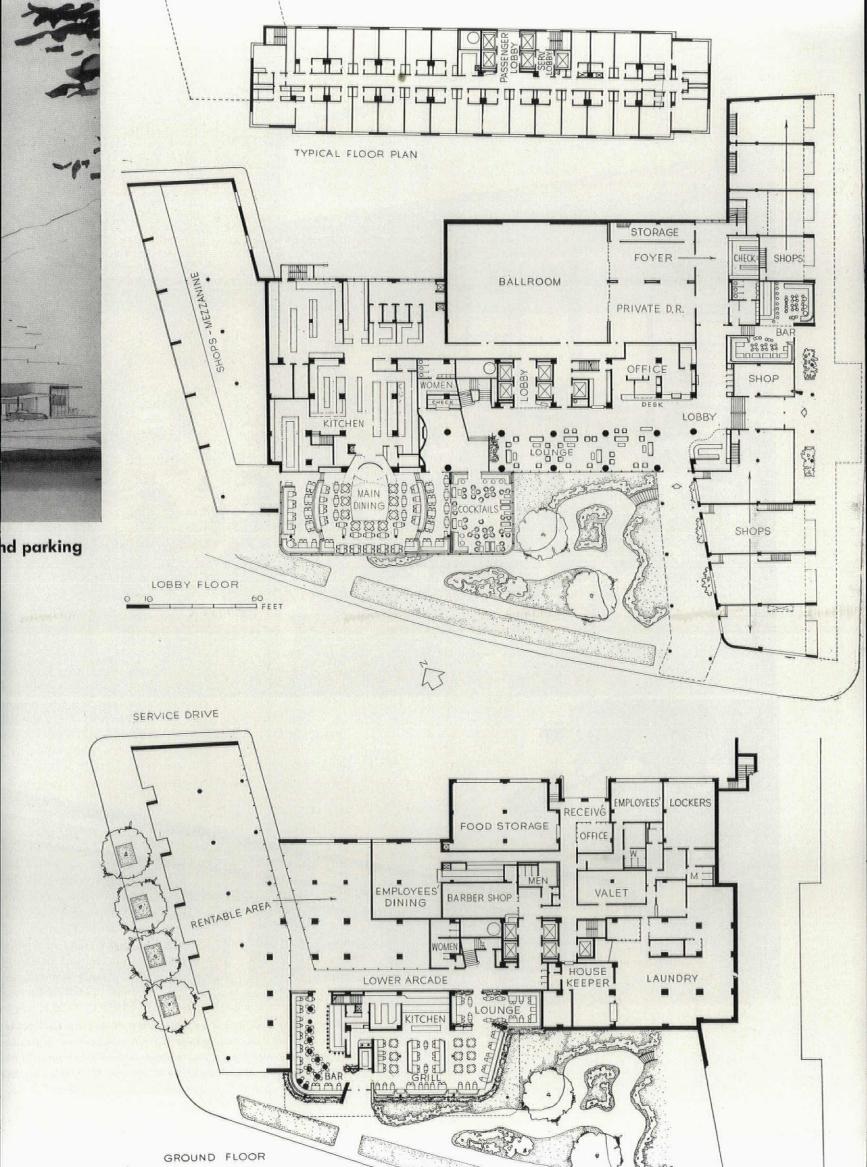
HOLABIRD & ROOT & BURGEE & ASSOCIATES

Associate Architects

In all its essentials this Bogota hotel might just as well be a 400-room house downtown in some northwestern town of the U.S. Because Bogota's temperatures vary only within a short range of 33 to 65°, air conditioning is not needed but there will be baseboard heating, and the architect has kept the public areas well glassed in. As a downtown hotel, this operation will count on recouping \$40,000 of its annual \$90,000 fixed charges by renting its street frontages to stores. To the rear of the hotel is a parking lot. Not counting this rental space, the cubage of the hotel would fall within H & R & B's standard of a total of 6,000 cu. ft. per room if it were not for the ballroom, demanded by the town, which puts the hotel over its cubage.

Four of the stores are given double frontage—to the street and to a long entrance ramp (see upper plan) and two of the hotel's four bars (an unusual number for this size of house) have attractive street entrances to entice town patronage. And in keeping with H & R & B's love for sunlit eating and drinking space, the main eating and drinking rooms, on two different levels, have three-way exposure to the pleasant, park-like, entrance grounds.

In its guest rooms this hotel follows the same pattern as the Tamanaco (page 96), except that the general shape is more compact and consequently economical. In fact the compactness-where compactness counts-of the guest-room stack contrasts interestingly with the open treatment-where open treatment counts-of the public and commercial areas.







The all-glass wall, with a recessed clerestory to bring light farthe into the room, faces east because of the requirements of the lot. The wide canopy over the outdoor passage is cantilevered to avoid the disturbance of posts in front of the classrooms. Plants take the place of the usual window-sill wall in cutting off outdoor glare.

PAROCHIAL SCHOOL attains a fine warmth and scale through careful adjustments

LOCATION, Houston, Texas
DONALD BARTHELME & ASSOCIATES, Architects
FRETZ CONSTRUCTION CO., Builders

When the architects of America went to Houston, about a year ago, or their annual convention, word quickly spread that a *must* building or visitors was a little parochial school on the outskirts. Little St. lose of Lima—five classrooms, a chapel, some auxiliary rooms—urned out to be more important for its basic values than for its innoations. It illustrates the old saying that the road to perfection is ined with trifles.

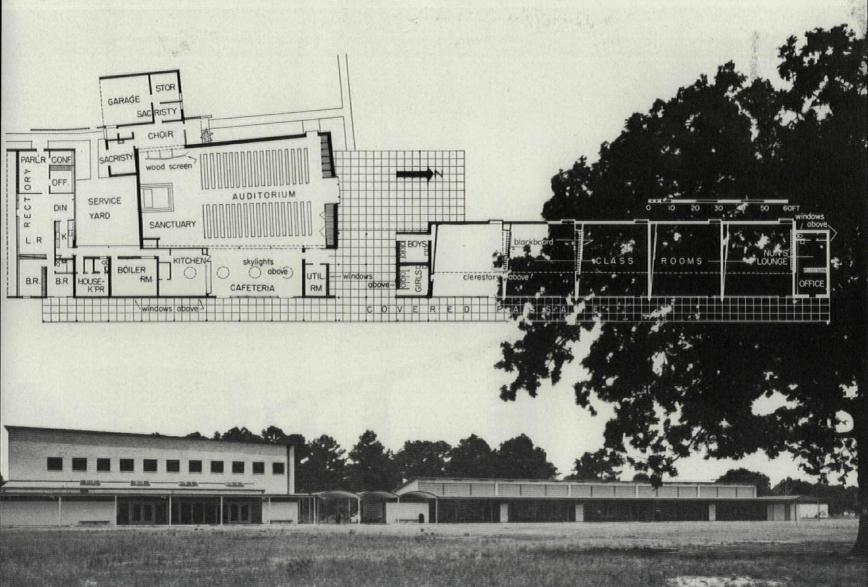
The first product of "trifling" adjustments is scale. "You felt," leclared one of the visiting architects, "that wherever you went within he building or around it, you were taking just the right number of teps." And the size and shape of building masses were in carefully neasured relationship to children and to one another.

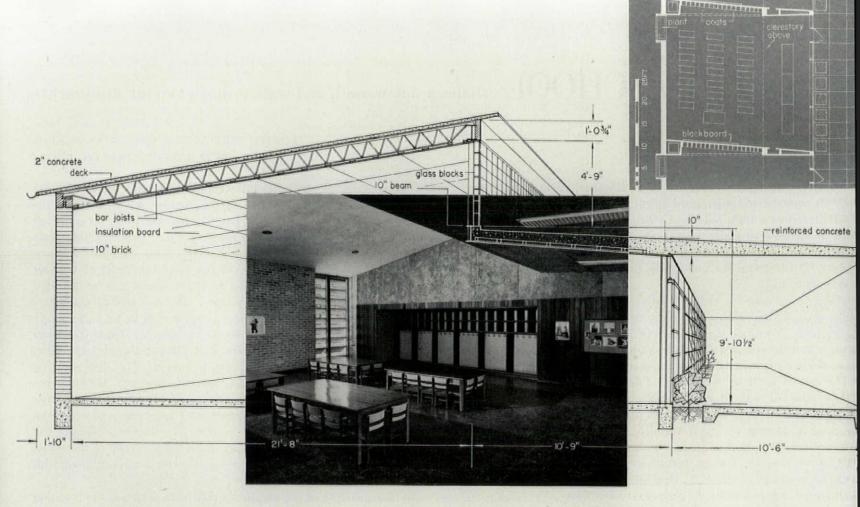
The second attribute is warmth of feeling, which Architect Barhelme achieved without visible strain. It comes from large plain extured walls of hand-made Mexican pink-tan brick. It comes from he sudden spotting of bright vermillion, yellow, or striped doors ike sentinels in a wall of glass. Within classrooms it comes espeially from the rough warm texture of warm-toned thermal board nade of cemented wood fiber, shredded, in contrast with redwood partitions, brick end walls, brightly painted closets.

Attention to proportion and workmanlike detail makes a charming place, by transmuting the common elements of a classroom. Exambles: The eastern or window wall of each classroom gains greatly being all glass down to the floor instead of glass to the windowsill

-the effect is simpler. But this arrangement omits the usual bulkhead wall to cut off the glare of the outdoor pavement from the children's eyes-so Barthelme has planted shrubbery in a trench directly outside the wall to do the screening (after reaching their growth) in a more delightful fashion. To bring daylight back into the deep square rooms (32 by 32 ft.) the upper part of the east window-wall is moved 12 ft, into the room, where it is carried on a steel beam as a glass-block clerestory. The low ceiling under this clerestory is carried out past the classroom wall to act as a canopy for the outdoor passage alongside the classrooms. There it extends the full 175 ft. length of the classrooms without a single supporting post to clutter the view or create a hazard. (In this situation cantilevering the concrete slab was actually cheaper.) On the opposite side of the classroom, the west wall is solid brick (protection against the heat of afternoon summer sun) but cross-ventilation-so essential in Texas-is achieved by the clever device of setting one stack of awning-type window sash in the back corner of the room. They are the same sash as those in the east wall but filled with opaque sheets instead of glass.

A fine example of the architect's skill with details is the insertion between the classroom block and the auditorium (left in photo below) of a series of three delicate shell-concrete open vaults. They link the heavy building masses together in an exceptionally graceful way, adding a pleasant little tune of their own.





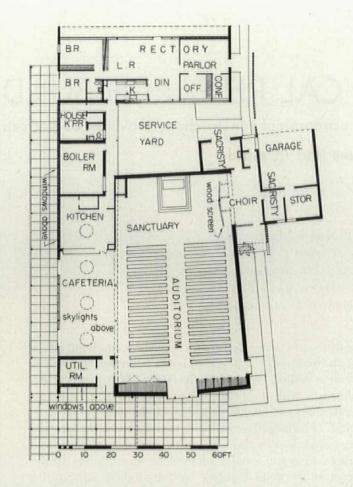
West side of school, facing parking lot, has a solid brick wall with intermitent stacks of awning sash (filled with solid board instead of glass) as ventilators.



cause the school is intended ultimately to be part of a parish oup including a church, some temporary adjustments had to be ade in a step-by-step building program. The school's auditorium elow) is used at present for church services for the entire parish, a cafeteria alongside, which can be opened entirely to the audirium by accordion folding doors, has occasionally taken the overw. Since the auditorium will be put to community summer use en after the new church has been built, it is air conditioned. The gh square windows are a felicitous design feature, their squareness andering them almost neutral, and unobtrusive.

Costs exclusive of land, landscaping, and architect's fee: General ntract (includes builder's fee), \$189,241.90; Heating and air nditioning, \$22,798; Electrical work, \$12,827.71; Total, \$239,335. Area (covered walk counts half) 303,100 sq. ft. at \$13.50.

RUCTURE: Exterior walls—hollow brick masonry, steel framing and constee block; inside—redwood or brick. Ceilings—cement coated fiber, Cemex rp. ROOFING—5-ply tar and gravel. SHEET METAL WORK: Flashing d gutters—copper. Ducts—aluminum. WINDOWS: Sash—Truscon Steel. Glass blocks—Pittsburgh-Corning Corp. FINISH FLOORINGS—asphalt e. HARDWARE — Sargent & Co. PAINTING — Pratt & Lambert, Inc. UMBING FIXTURES — Crane Co. Hot and cold water pipes — copper. EATING AND AIR CONDITIONING: Heating—warm air system. Air contioning—Johnson Service Co. pneumatic control system (winter, summer, ntilating cycles); with some Carrier Corp. equipment. Boiler — Bryant sater Co. Janitrols in classrooms—Surface Combustion Corp. Regulators—nneapolis-Honeywell Regulator Co. Water heater—Crane Co.





MEDICAL RESEARCH BUILDING: its handsome contemporary design

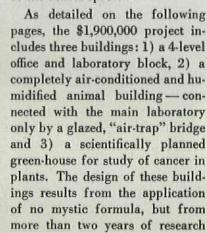
belies its economical construction, provides 25 per cent more useful space than the Georgian version the trustees had in mind

LOCATION: Philadelphia, Pa. V. G. KLING, Architect; R. E. ECKLES, Consulting Architect HENRY NORREGARD, Structural Engineer A. ERNEST D'AMBLY, Mechanical Consultant WARK & COMPANY, General Contractors

The new Institute of Cancer Research, planned for an all-out attack on the century's No. 1 medical problem, is the latest development in antiseptic building design. It cares for its staff of 70 top-rank scientists and technicians with the luxurious convenience of a first-class hotel and for its colony of 30,000 animals with the meticulous sterility of a hospital. Flexibly planned for immediate room changes and for future expansion, it sorts and restricts expensive controlled areas to an inner core and to two smaller adjacent locations, leaves all the outer floor area of the main building for fully-lighted laboratories and offices. In conjunction with this canny specialization of areas and the application of a 9 ft. design module, a system of concrete block ceilings and tile partitions allows its 12 closely-packed utility lines to be used in any part of the laboratory area-and does so at minimum cost. The \$1.50 per cu. ft. rate is an amazing 60 cents under the current level of \$2.10*. Even the handsome design is a bonus from economy-a gable-roofed colonial style favored by the trustees

would have eliminated 25 per cent

of the usable space.



and study by Architect Vincent King. With three associates he lived and worked with the Institute staff in their former cramped and inconvenient quarters on the ground of Phiadelphia's Lankanau Hospital. The plan of the new building took shape as the team sought solutions for the day-by-day difficulties that came up. The old brick laboratory (photo above) was adequate enough when it was built-only 25 years ago. However, with the advances made in every science since then, its short-comings became more and more apparent. There was no room to add needed equipment and it was difficult to add or expand utilities in its heavy, box-tight construction. The research staff had multiplied five times, and although four nearby houses had been pressed into service as annexes there was still not enough lab space.

* National average for medical research buildings.

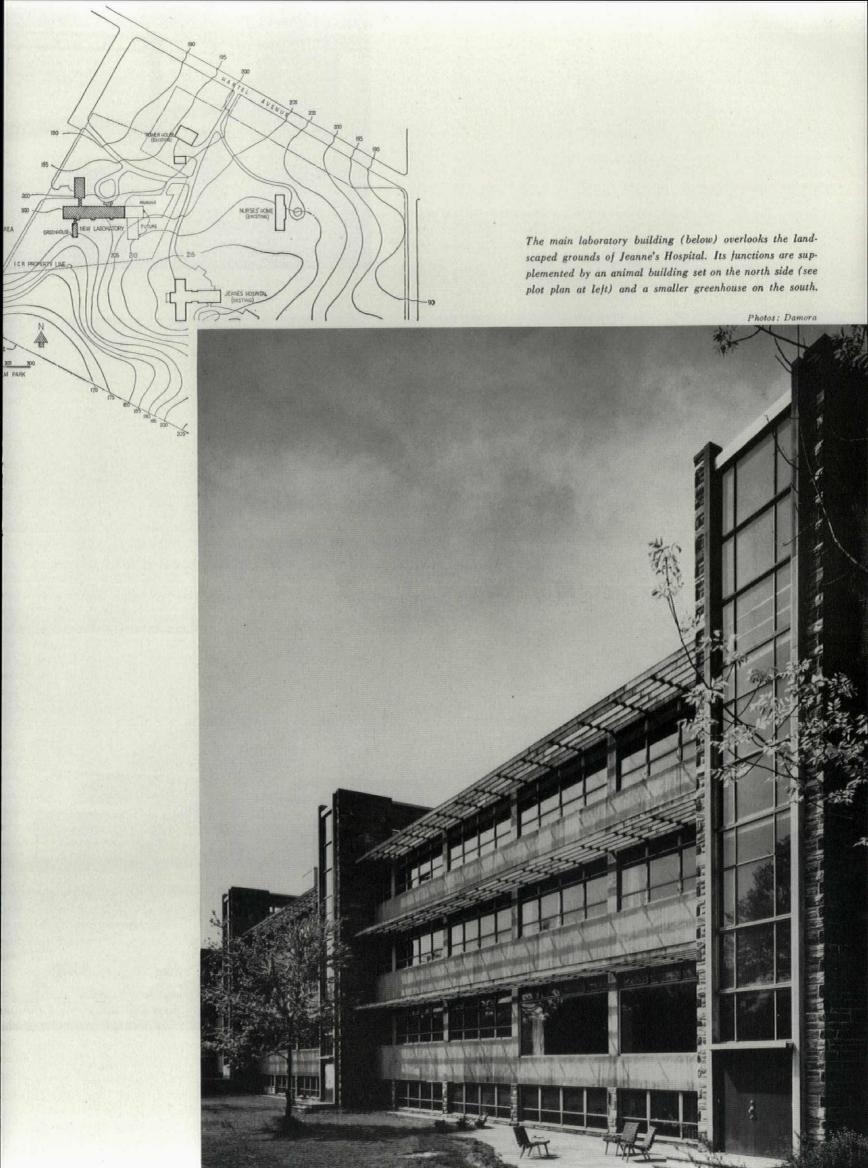
There was no room either to store and care for the fragile, expensive supplies needed for experiments. Because they could not be accon modated in or near the laboratory, the large numbers of animals use in the tests (mostly rodents) were scattered in twelve separate local tions throughout the city. Even more serious than all this was th fact that as the city grew up around the site, the noise, fumes, grim and reverberations of traffic interfered more and more with the del cate experiments. "We would take an hour to center one instrument, reminisces Dr. Stanley Reimann, Director, "then a 10-ton truck woul go by, jiggle the thing and we would have to start all over."

Design norm: The individual researcher

Three years ago, Jeanne's Hospital heard of these difficulties, an offered the Institute eight acres on their grounds in Fox Chase abou half an hour's drive outside the city. The offer was immediately ac cepted and Vincent Kling (who had worked with Skidmore-Owings Merrill on the design of the Sloan-Kettering Cancer Hospital in Ne York City, Forum, August, 1948) was commissioned to design a adequate laboratory. Its facilities were to reflect the Institute's an bitious program: to focus all the natural sciences from physics t physiology on the key secret of cancer-growth. Such a tremendou program required important research auxiliaries-completely-cor trolled rooms for observation of plants and animals, a fully equippe library, seminar rooms, a machine shop for delicate equipment, et In all questions of design and placement, the norm of convenience was the individual research worker. Since the Institute for Cance Research is geared primarily for abstract study, it does not need pro vision for the care of patients. These will come to the laborator only for consultation and examination.

Not the least need of research workers is a pleasant, attractive place to work. Some of the scientists have been studying a single problem for more than 25 years—and are prepared to work 25 more if neces sary. The building and its site are intended to make this tense, long range schedule as congenial as possible. Column-to-column window (see south exterior photo at right) bring full light into all labora tories and offices. The stair towers, self-supporting masonry units of Chestnut Hill stone, are faced from top to bottom with glass. (The comparatively luxurious use of stone represents a handsome compre mise with the wishes of the hospital trustees, since it brings the lal oratory into harmony with the other stone buildings on the grounds. Cantilevered grids of redwood and aluminum overhang each row of windows on this south front, adding richness to the exterior while the help cut down glare. Horizontal, thin-cut slabs of unpolished ston alternate with the windows; fit directly into the spandrels.

Should the next 25 years of existence bring a need for expansio as great as the first quarter-century, they will find the new Institut building well prepared. A preliminary step will be removal of admir istrative functions from the main block to a separate wing at th northwest corner. Later the main building can be extended in either direction along its east-west axis; the animal colony can be expande both horizontally and vertically. Air-conditioning and utility sys tems are designed for loads 100 per cent above present needs.

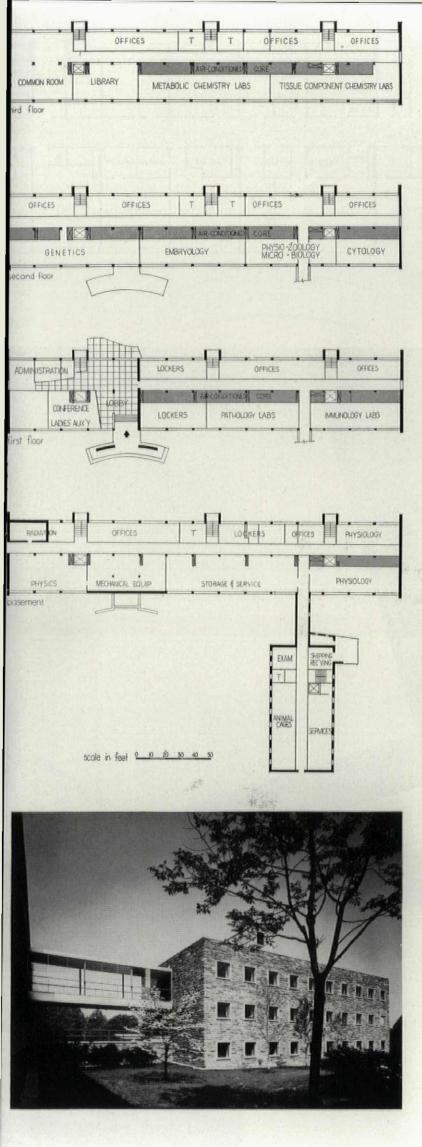




Bright airy rooms enliven the atmosphere for staff and visitors. The entrance lounge (right) as well as the Commons' room (far right) have large windows, acoustical ceilings. and rich wall textures.



The north face of the building allows glareless light into all laboratory room Its free-standing, glass-enclosed entrance portico is dignified and emphatic wi out taking up valuable building space. The animal building (right) is of so masonry with small windows provided in case of air conditioning breakdow





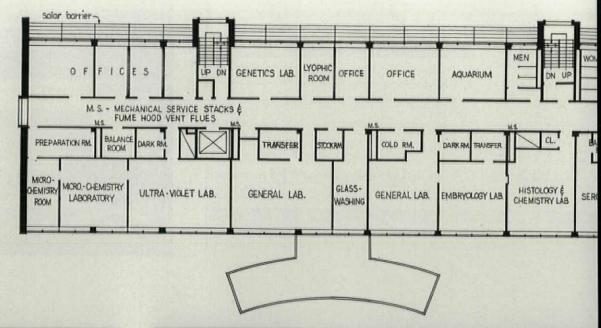
Commons' room (above) seen from adjacent kitchen

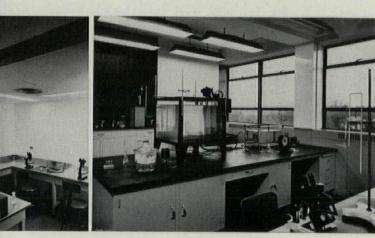
The four levels of the long main laboratory building are neatly assembled not only to produce adequate work space for the various departments but to laminate all these elements together into a single super-tool against cancer. The Institute is entered through a freestanding portico and a glass hall which leads to the bright open lounge (photo, left above). This section for visitors and the few patients who visit the laboratory fully expresses Architect Kling's belief that everyone using the building "should get as much lift out of the environment as possible. It should be cheerful, open and attractive in color, design and materials." The lounge walls are of natural mahogany planks, set vertically with a beveled face. Their rich color brightens the room and provides a handsome frame for its long view of the rolling, landscaped grounds seen through large glass areas. Left of the lounge are administrative offices and meeting rooms. Offices for examination of patients by the Institute's staff are set just off the entrance lobby.

On the second floor the full range of animal experiments are conducted (departments of genetics, histology, cytology, embryology and zoology). The great number and variety of small animals needed for observation and testing have been separated from the individual labs and are housed in a three-story, full air-conditioned building of their own. The only direct connection of this building with the main block is a glazed bridge that crosses over to the laboratories on the second floor. This bridge functions as an air and bacteria trap preventing contagion or fumes from spreading from one building to the other. The precaution is even more necessary for the protection of the animals than that of the hardier researchers—since the animals are very susceptible to respiratory troubles. Loss of these animals, some of which have been inbred for 20 generations, might well mean a set-back of years in some courses of study.

The third floor of the laboratory at the top of the building, close to outer air, holds all the chemical departments. Fumes from these experiments are thereby vented directly and kept as much as possible away from the other departments. For an opposite reason, the physics laboratories are set on the basement level where vibrations from the heavy equipment will be directly absorbed into the ground. The extreme westerly part of the basement is used for the plant pathology lab. This location permits the department to have direct access to a greenhouse which adjoins the south side of the laboratory.

A sensible but perhaps over-simplified scheme has been worked out for the layout of all floors. In four parallel strips which run the whole length of the building are laid (from north to south): laboratories, a core of specialized rooms, a corridor and, along the south wall, office spaces. The advantages of this system are: all labs get generous north light; special control rooms are removed from the face of the building and can be serviced with a minimum of run-out lines. The disadvantage is that it sets up an arbitrary and sometimes inconvenient barrier between laboratory and desk space—many researchers prefer to write up reports within the laboratory itself.





Typical "inner core" room (left) is air-conditioned, has glass tile walls. Genetics laboratory (right) also uses dustproof finishes to safeguard delicate experiments.

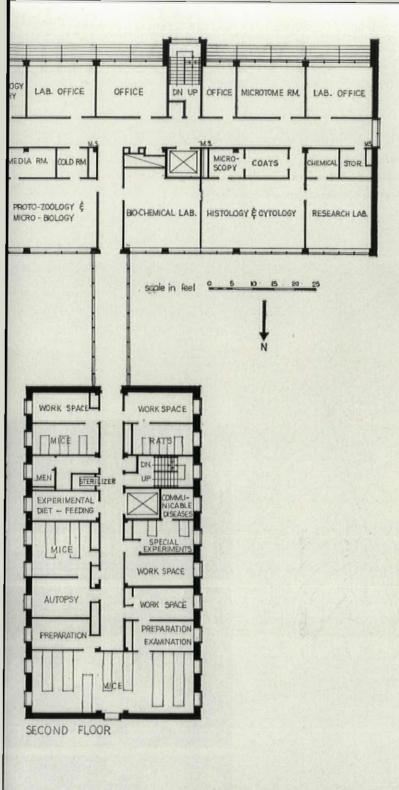


Typical "inner core" room (left) is air-conditioned, has glass tile aisles within 18 ft. bays. Clay tile walls, unfinished ceilings and exposed utility conduit (just visible at extreme left top of picture) are dictated by economy.



Rooms in the animal building (right) ensure cleanliness by glazed tile walls, steel racks and cages.





DNSTRUCTION OUTLINE: Waterproofing—Celotex and membrane, Celox Co. Exterior walls—spandrels 4 in. limestone and 6 in. hollow block astered. End walls 8 in. stone, 8 in. hollow block and 2 in. utility block, fest Virginia Block Co. Floors—slag block slab reinforced, Republic Fire-roofing Co. ROOFING—built-up, Barrett Div. Allied Chemical & Dye Corp. eck—Traffic Top, Celotex Co. INSULATION—Pittsburgh-Corning Corp. and ational Gypsum Co. FIREPLACE: Damper—The Donley Bros. Co. WIN-OWS: Sash—steel projected, J. S. Thorne. FINISH FLOORING—asphalt le, Thomas Moulding Co. ELECTRICAL FIXTURES—Benjamin Electric fig. Co. and Holophane Co., Inc. Switches—General Electric Co. PLUMBING IXTURES—American Radiator-Standard Sanitary Corp. HEATING—hot ater system. Animal colony 100 per cent, laboratory building partially a/c nd humidity controlled, electric precipitation for filtering, where a.c. is used, festinghouse Electric Corp. Radiators—fin type, Trane Co. Regulator—John-on Service Co. Water heater—The Patterson Kelley Co., Inc. SPECIAL QUIPMENT: Laboratory equipment—Laboratory Furniture Co. Fume hood lowers—American Blower Co. Greenhouse—Lord & Burnham.

The 9 ft. module which underlies all the dimensions of this complex building is based on the width of a single work bench (4 ft.) plus a 5 ft. aisle. This figure leads to the use of 18 ft. bay widths throughout the building and all laboratories are worked out to dimensions of half, single, and one-and-a-half bay lengths. The steel frame of the building is fitted with floor slabs of slag compression block—a type not only inexpensive but allowing penetration at almost any point.

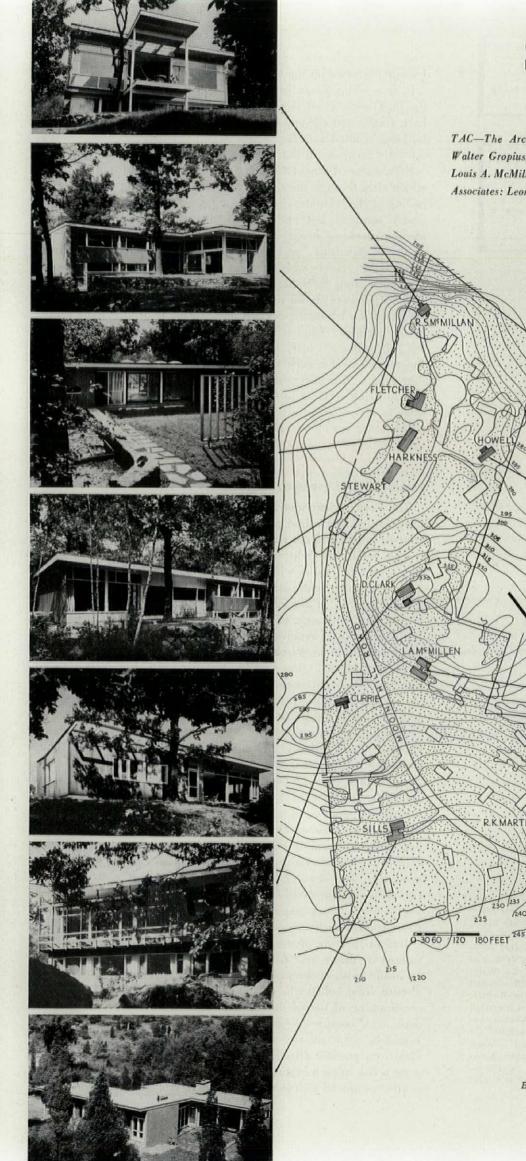
Services are brought to each work bench from an upfeed chaser which rises through the slab from a conduit hanging just below the ceiling of the laboratory underneath. This conduit furnishes 12 necessary services: hot and cold water; distilled water; high and medium pressure steam; gas; vacuum; compressed air; two types of power circuiting; acid as well as sanitary waste. All are accessible on 9 ft. centers, which makes for considerable flexibility of bench placement along the laboratory side. The service conduit is laid out in a loop system shown in the plan at left. This passes through the center of the laboratory section and returns under the hung ceiling in the corridor. The corridor ceiling is of removable metal pan in 1 x 2 ft. sections, which makes it possible to tap the line at any point for repairs or for such extra feeders as are needed for the inner core rooms. It is also possible, but more difficult, to tap this corridor line to bring services to office areas across the hall (this has been done in several cases already). The loop system allows facilities to be used-or cut off-in each laboratory. Its horizontal distribution takes up less floor space than would a vertical system.

Flexibility and economy

The need for economy, which was not allowed to interfere with provision of specialized requirements and which both architect and trustees felt should not exclude ample, pleasant employees' quarters, reveals itself in the adequate but rough-finished shell of most laboratory rooms. All walls, with a few exceptions, are of clay utility block, a material only slightly more expensive than concrete block, but much more attractive. It has the chemical-resistant and washable qualities of glazed tile (though, of course, it is more porous) but it costs far less. To facilitate removal when changes are necessary, it has been set in stack joints. Visually, the tile is a non-reflecting gray which forms a pleasant background for the beige-and-black work-counters and the varicolored cases and cabinets. Maximum flexibility, desirable for the changing program of this laboratory, would have been better served by metal panel partitions—but only at five times the cost.

The ceiling slab is left bare in most of the rooms (see lower photos). The fluorescent lighting fixtures, however, have been hung flush with the beam heads so that, should funds be later available for hung ceilings, they can be easily installed. Already some of the more delicate experiments have demanded dustproof finishes. (At present, for instance, a series of tests is being made on the lymph-nodes of the fruit-fly where the slightest piece of dust would be larger than the part under observation.) Several such labs have had their walls covered with glass tile (see center photo) and have had the ceiling slabs plastered. The small core rooms (photo far left) are not only equipped with dustproof finishes but have air washed with electostatic precipitators. Such service spaces include incubation, culture and tissue rooms; dark rooms; rooms held at various cold levels, etc.

General heating of the laboratory is by forced hot water supplemented by blown air. All exterior walls have, below window level, an inside finish of sheet metal which serves as a hot water convection closure from column to column—providing even, zoned heat. Air conditioning of the whole building, as well as the specialized inner core, was considered—but such varied and exorbitant demands would be made on any system that the idea was abandoned. The disastrous possible effects of mixed gases and contagion made it too great a risk in such experimental work. The animal colony, however, is air-conditioned with complete control of temperature and humidity.



SIX MOON HILI

TAC—The Architects Collaborative: Jean Bodman Fletcher, Norman Fletcher Walter Gropius, John C. Harkness, Sarah Harkness, Robert S. McMillan, Louis A. McMillen, Benjamin Thompson.

Associates: Leonard Currie, William Haible.







Ezra Stoller: Pictor

ollaborative planning integrates tailor-made houses in co-op subdivision, demonstrates new ideas in design

uilt along the wooded slopes of Six Moon Hill, only two miles om tradition-steeped Lexington, Mass., the 11 medium-priced ouses pictured here and on the following pages form an unusual rofessional proving ground for a new method of architectural pracce, and new ideas in land development, design and construction. As omes of venturesome young architects, many of the houses detailed n subsequent pages not only have the hallmarks of advanced conemporary design but also pioneer a variety of innovations (such as lastic bubble skylights and big windows that handle like overheadype garage doors) which may some day be adapted to general use. As a group, the houses demonstrate that: 1) Through good site lanning and harmony of design moderately priced modern houses of lifferent shapes and sizes can be built to form a pleasantly coherent ommunity, in sharp contrast to the monotony of most FHA-financed neighborhoods. 2) Owners of modern homes in a development saferuarded by this type of design control can get satisfactory financing rom private sources. 3) With a little experience, contractors can put ip a good modern house at low cost and a profit. 4) With profes-

hrough which many such undertakings have foundered.

Originators and moving spirits of the Six Moon Hill project are ix members of The Architects Collaborative, a "bossless" firm whose best known member is Walter Gropius, professor of architecture at Harvard since 1937 and a leader in modern design since his days at he famous Dessau Bauhaus. TAC was founded four years ago in he belief that collaboration could be more useful in modern architecture than brilliant individualism—"A team can raise its integrated work to higher potentials than the sum of the work of just so many individuals." Besides the houses at Six Moon Hill, TAC has designed a number of larger residences, several schools and the new Graduate Commons and dormitories at Harvard.

ional control and a strong bond of common interest, cooperative tousing ventures can avoid the pitfalls and technical difficulties

At Six Moon Hill, the TAC approach was applied not only to design, but to the development, construction and operation of an architecturally integrated community. Conceived first as a postwar project to provide homes for the TAC architects themselves, the idea of a cooperative neighborhood of individual but well-related homes soon interested other young university people in Cambridge.

Since Massachusetts law prevented formation of a true housing co-op (which would own the land and lease it to tenants), the group set up a corporation to buy a 20-acre site on Six Moon Hill, build an access road, bring in utilities and control sale of individual lots. Located mostly on the east and southeast slopes of a ridge combining wooded areas, grassland and some rock outcrop, the property affords an unusual variety of sites with long views. The surrounding area is zoned for ½-acre residences but screened from the development by the terrain; a local shopping center and schools are one-half mile away; Cambridge may be reached in 15 minutes by car, Boston, in half an hour. An existing road provides access to the northeast corner of the property.

Controls over the development are designed to satisfy individual requirements yet maintain a community of cooperative and homogeneous character. The area was divided into 29 uniformly priced lots of about one-half acre and four acres of common land to be jointly developed for recreation purposes. Purchase of land gives an owner two voting shares in the corporation and obligates him to build within two years and use the services of one of the resident architects. Important additions or changes to the property are passed on by a Planning Board made up of the architects and residents. To sell their houses, owners must either obtain the approval of the corporation or permit it to have first option.

Over the past three years, 19 houses have been built, ranging from \$10,000 to \$22,000 in cost and from 1,100 to 2,200 sq. ft. in area, and four more houses are in the planning stage. Most of the owners have been able to obtain from private sources 20-year guaranteed 4 percent mortgages ranging as high as 80 percent of valuation, which was generally in line with actual costs.

In terms of savings, the cooperative approach is difficult to assess accurately. Apart from original development, activities undertaken jointly to cut costs have been limited to spraying poison ivy, draining swampy land, planting roadside grass and buying fuel oil. One TAC member estimates that building costs averaged about 10 percent less than on comparable jobs elsewhere, based on the fact that the group did its own land development and contractors were anxious to qualify for further jobs in a growing community. Many owners have done their own landscaping and interior finishing under TAC direction. Because each house was handled individually, and times of building varied in most cases, it was not possible to synchronize construction of groups of houses to effect large saving in material purchase and construction. Unfurred cinder block walls and cement floors were used widely to cut costs.

But in some cases economies were gained at the expense of a great deal of the members' time and some man-sized headaches. At one point, the group raised nearly \$20,000 cash in 48 hours to post with the town in lieu of a performance bond for road construction. Later, a bond was obtained from an insurance company. Members emphasize that only an unusually high esprit de corps has enabled them to develop the community successfully.

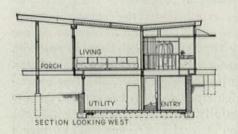
The interest and cooperation of local contractors has also been a major factor in the project. More than half the work was done on a cost-plus basis and in most instances original estimates were pared. Builders were generally happy about their work at Six Moon Hill. Says one: "Houses like these offer no short-cut to the builder, but after he's put up one or two they're easy."

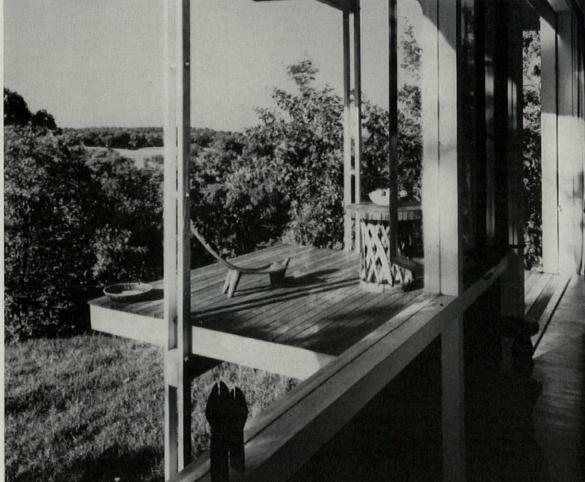
In terms of design harmony, the controls imposed by TAC have produced houses which have individual character and diversity, and yet are obviously members of the same family. Throughout the development, natural siding, white trim, gray painted plywood panels and masonry, flat or shed roofs and identical detailing of windows and doors have been used to unify the exteriors and key them to their surroundings.

The number of interior features which the houses have in common is due not only to a unified architectural approach but to the fact that Six Moon Hill is populated almost exclusively by servantless, two or three children families of young university professors whose requirements are much the same.

As focal points of activity for such families, kitchens, dining and play space have been closely integrated in many of the houses. Open planning and large glass areas, both movable and fixed, create a sense of spaciousness and contact with the outside. Necessary excavations for footings have been economically converted into half-basements, creating flexible split-level arrangements. Interior bathrooms have been used in several houses to make better use of limited space. Other construction features widely used: painted cinder block walls, concrete or slate floors, radiant heating, plywood storage walls, redwood or cypress siding.

Encouraged by the popularity of Six Moon Hill houses with their owners and by the successful integration of the development into the town of Lexington, TAC has taken an option on another tract of some 80 acres in the same community. Here they plan to follow the pattern used at Six Moon Hill, except that members' houses will be built ten at a clip to reduce costs substantially.





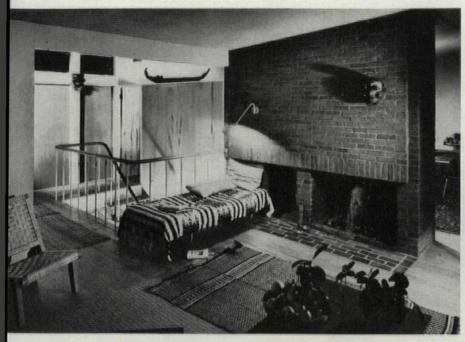
Photos: Ezra Stoller-Picto

McMILLAN HOUSE

Occupying one of the most dramatic sites on Six Moon Hill, the McMillan house is economically planned for a couple with full-time jobs and no children. To take maximum advantage of a magnificent view to the south, the whole upper level is treated as a single space, dominated by a glass wall and divided into living and working areas by fireplace and storage sections. Bedrooms are logically segregated on the lower level and adequately lighted by strip windows opening onto the view.

A 10 ft. sliding glass panel opens the living area to an airy porch, framed by wood beams and columns comprised of 2 x 4's with spacers. Where porch and main roofs join, a clear glass skylight section brightens the interior. From the entrance, a birch-railed stair leading down to the bedroom level adds a new dimension of space and shows the main elements of the plan. The window wall is composed of fixed glass sections, steel casements, and cement board planels set into modular wood framing. Redwood siding, white trim and gray cinder block tie in with the exteriors of the other houses in the group.



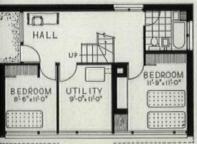


The living area is separated from kitchen-dining space by a plywood storage-wall and the handsomely detailed brick partition which houses firewood and fireplace.



On the far side of the house from the kitchen, and insulated from its noises by intervening doors and partitions, is a well-lighted working space for the architect-owner.

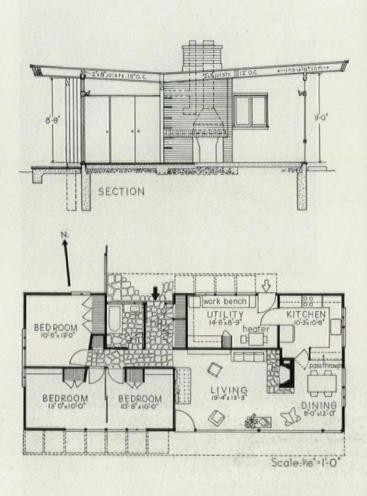




LOWER LEVEL

CONSTRUCTION OUTLINE: Foundation—cinder block. Exterior walls—plaster on Insulite, studs, Celotex sheathing and redwood. INSULATION—Insulite Div., Minnesota & Ontario Paper Co. and Celotex Corp. FIRE-PLACE: Damper—Donley Bros. Co. SHEET METAL WORK—16 oz. copper. WINDOWS: Sash—metal casements, Hope's Windows, Inc. PAINTS—Murphy Paint Div., Interchemical Corp. and E. I. DuPont de Nemours & Co. HARDWARE—Lockwood Hardware Mfg. Co. and W. C. Vaughan. ELECTRICAL INSTALLATION: Wiring system—Romex. Fixtures—Kurt Versen. KITCHEN EQUIPMENT: Range—Hotpoint, Inc. BATHROOM EQUIPMENT—Kohler Co. HEATING—Hot water radiant system. Boilers—Taco Heaters Inc. Regulator—Minneapolis-Honeywell Regulator Co.



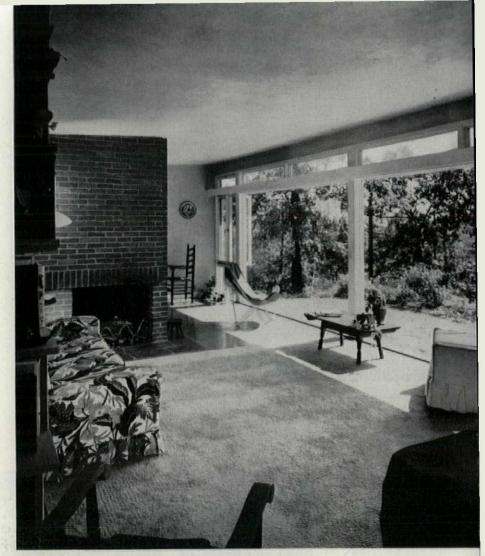


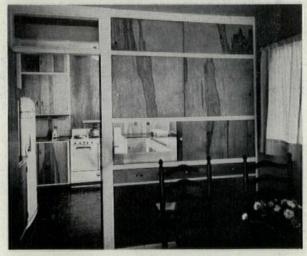
CLARK HOUSE

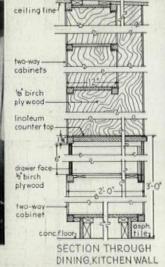
One of the most compact and conservative of the Six Moon Hill houses, the Clark residence was also the first of the group to be built. Living, sleeping and work areas are sharply defined both in the 1,170 sq. ft. plan and the direct handling of the exterior. Now three years old, the house "spells comfort" to the two-child family of a Harvard Business School professor. A covered passage connects the main entrance with a recently built annex containing a garage and woodworking shop.

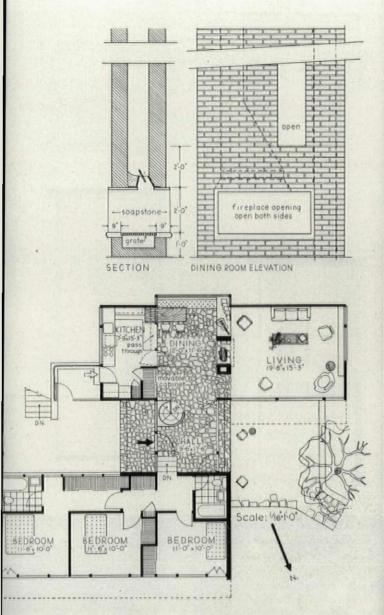
Occupying one of the highest points of the tract, the house is oriented to give maximum benefit of sun and view to the glass-walled living space, which opens on a ledge-bordered terrace. In line with the client's wishes, a swinging door and sliding plywood panels in the pass-through wall make it possible to shut the kitchen off completely from the dining area—a departure from practice followed in most of the other houses. As in the Harkness home, bedrooms may be merged into a single segregated playroom by sliding plywood panels.

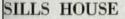
Exterior treatment includes striated plywood (originally natural, now being stained light gray), a butterfly roof, and effective expression of the rectangular plan through continuation in skeleton form of the overhang shielding the floor-to-ceiling windows of the living area.









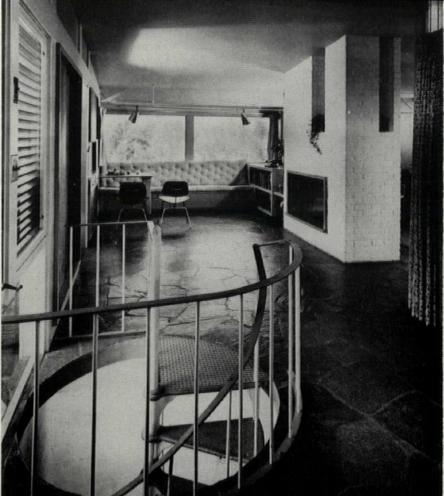


Designed for one of Six Moon Hill's few non-academic couples, this carefully detailed house has reserve space to provide for future family growth. The spacious entry hall, approached by steps leading up from the garage level, may be converted into a breezeway by folding glass doors opening onto the terrace. A slate floor throughout the central area contrasts pleasantly with chimney brick and natural plywood panels and ties this space in with the flagstone terrace.

A light oak dining table rolls to and from the kitchen in fixed channels, simplifying serving and forming a counter top when not in use as a table. Separated from the living area only by a two-way fireplace and a low storage cabinet for records, the dining space may be used for general entertaining or as a future playroom, easily supervised from the kitchen.

Principal light sources in living and dining areas at night are a series of movable spots mounted on an aluminum bar running the length of the east wing. Some of the spots highlight paintings collected by the owners and displayed against the natural plywood wall of the living area.

In the hall, a space-saving spiral staircase leads down to a combination laundry-heater-play space and a garage which is convertible into a future bedroom and bath.





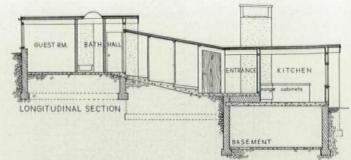


McMILLEN HOUSE

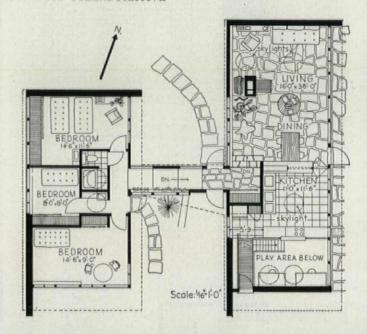
The bi-nuclear plan of this house was dictated by the slope of the ground and the owner's liking for a one-story arrangement. Though one of the most advanced of the group in design, the house was recently sold at a figure close to the original investment. Connected to the living area by a narrow, glass-walled passage which is also the main entrance hall, the bedroom wing has a high degree of privacy. The steep site was exploited to provide additional storage and play space on a lowel level at the kitchen end of the main wing.

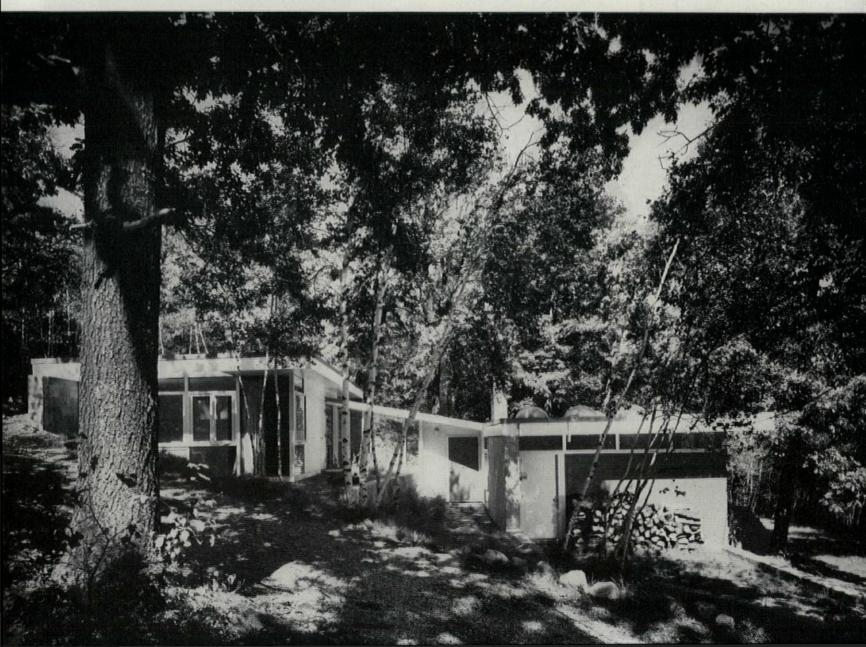
TAC here made its first experiments with the use of plastic bubbles as skylights. Set in circular, chamfered ceiling wells, the bubbles are a dramatic source of light. But to make installation easier, TAC later developed the rectangular-base variety used in the Harkness house. Still other Six Moon Hill houses have cheaper skylights of plate glass. Good use is made of the bubbles here to light the kitchen, lower level storage space and an interior bathroom that permits full use of exterior wall space for bedrooms.

Low kitchen counters form the only cross-partitions in the living wing, giving a maximum sense of space and opening the whole area to the continuous eastern window wall. Access from service door to kitchen is across a steel-grille bridge, which also supports a stock fire escape stair leading down to the basement utility room.



THE ARCHITECTS COLLABORATIVE





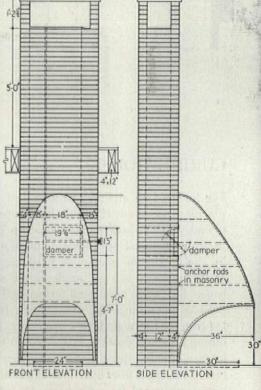


Looking toward the bedroom wing from the living area, the main entrance is at the left. Across the glassed-in passage, a door opens onto a small garden terrace sheltered by the main wings of the building.

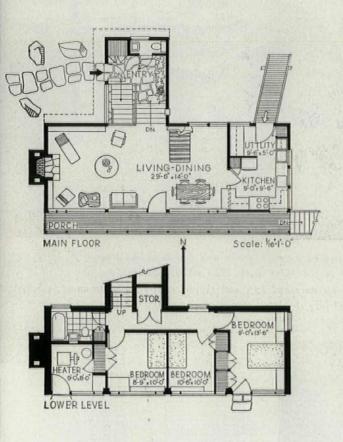


The hooded fireplace draws well and is visible from any point in the living wing. The white concrete hood was built up on metal lath and shaped reinforcing rods anchored into the brick chimney.





CONSTRUCTION OUTLINE: Exterior walls—cinder block with granulated cork insulation or Weldwood, U. S. Plywood Corp. with Reynolds Metal Corp. insulation. Ceiling finish—Johns-Manville Corp. board. INSULATION — Johns - Manville Corp., Reynolds Metal Corp. and Celotex Corp. SKYLIGHTS — Plexiglas, Rohm & Haas. HARDWARE—W. C. Vaughan. KITCHEN EQUIPMENT: Range and refrigerator—Hotpoint, Inc. Washing machine—Frigidaire Div., General Motors Corp. HEATING—hot water system, radiant panel in floors.



CURRIE HOUSE

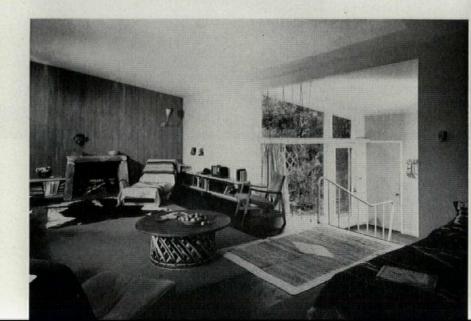
The home of an architect who worked closely with TAC in planning Six Moon Hill, this house opens up imaginatively to make both esthetic and practical use of the space enclosed in its economical split-level plan. With width determined by the maximum span of 2 x 10 in. joists, the long axis of the house is at right angle to the slope, and all major rooms face south on a small terrace and a grove of tall oaks.

From an entrance hall conveniently located on a half-level between the two main floors, open stairs lead up to the livingdining area and down to bedrooms on the terrace level. The kitchen-laundry space may be completely shut off from the rest of the upper floor by a door and sliding panels. A wooden ramp, suspended from the house by cables, provides access to the kitchen without altering the natural slope of the site.

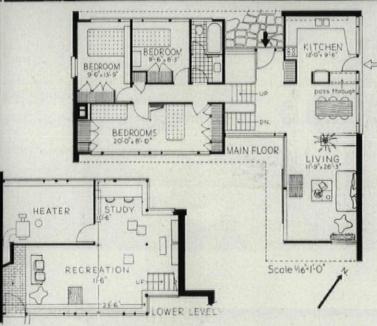
Bedroom windows are shaded by the upper-level balcony, which is hung by 2 x 4's bolted to the roof joists. Corrugated cement-asbestos panels are set between these uprights to shade windows of the living-dining area. Light, crossed cables form a decorative motif throughout the house—as a screen between entrance hall and living space, as reinforcing on screen doors, as a balcony rail. An accent to lighter forms, the fireplace is framed in heavy granite curbstone.











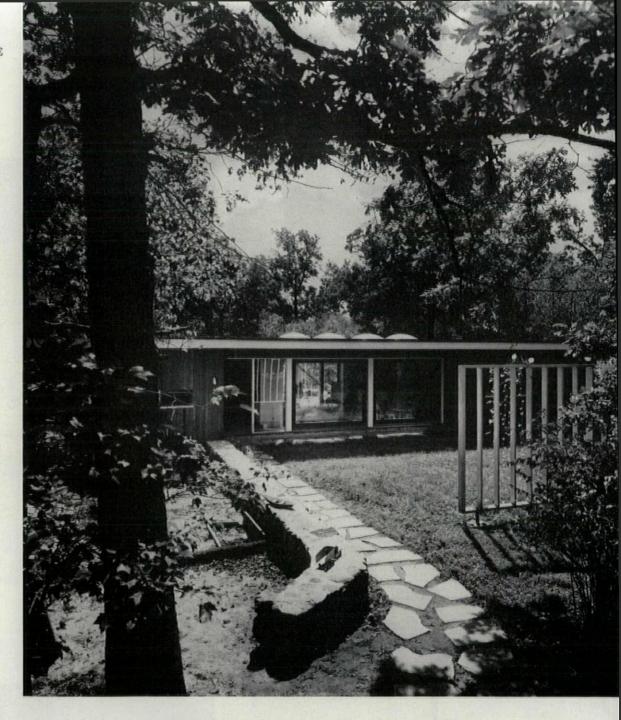
FLETCHER HOUSE

A three-level plan provides a spacious-seeming home for TAC architects Norman and Jean Fletcher and their three young children. Costs before painting were about \$8.75 a sq. ft. Since footings had to go down 4 ft. to get below the frost line, the necessary excavation was used for a half-basement. Heater, storage space and a multi-purpose room brightened by a fireplace and strip windows were placed on this level. The bedrooms above gain additional privacy by having a half-level between them and the living-dining area. Another happy result of this plan is the spaciousness created by high ceilings throughout the ground floor level.

Small clear plastic inserts between roof joists help light the kitchen, where natural finishes, including oak countertops, dominate. Other decorative touches: a strip of acoustical tile for mounting pictures on painted cinder block, a walnut plywood panel set in the glass wall of the living room, a fish net screen between living and dining areas.







HARKNESS HOUSE

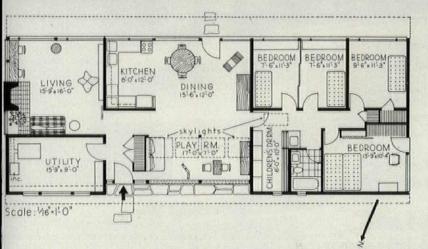
Like most of the homes designed by TAC architects for their own families, the Harkness house contains experimental features aimed mainly at: 1) making the care of young children easier, 2) adapting to the extremes of the New England climate. The core of the house is the continuous kitchen-dining-play space which may be opened to form a breezeway in summer. Large windows on the north side are cross-braced with steel tie-rods and fitted with standard hardware to handle like overhead-type garage doors. In winter, when the outlook is bleak, white wooden shades are rolled down over the windows and the play space is lighted solely by domed plastic skylights. By curtaining off the play area extra sleeping space may be provided.

Other flexible features include a children's washstand and a dressing alcove (which will be converted to a full bathroom later), a gaily painted sliding partition between two children's rooms and provision in the plan for future additions to the west or north.

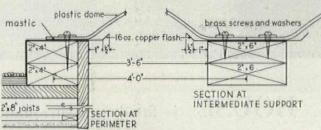
Though a measure of privacy is provided for the parents by the study, neighbors point out that the central "breezeway" is a magnet for all children. The Harknesses have added acoustic tile to the ceiling.

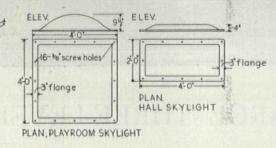




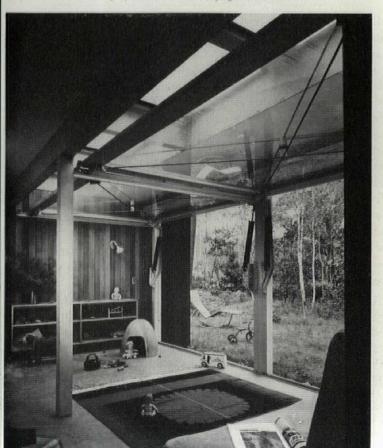


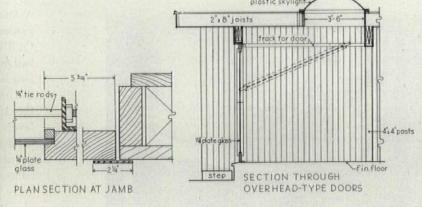






Bedded on mastic and copper flashing, the playroom's plastic skylights taper to a flat, rectangular flange. When windows are raised, roller shade may be extended on top of them to screen skylights (above).





CONSTRUCTION OUTLINE: Foundation—concrete block. STRUCTURE: Exterior walls—redwood siding, building paper, studs; inside—plywood, U. S. Plywood Corp. Floor—concrete slab. Ceiling finish—Homasote, Homasote Co. or acoustical tile. ROOFING—built-up. SHEET METAL WORK: Flashing—16 oz. copper. WINDOWS: Sash—Hope's Windows, Inc. Skylights—Plexiglas, Rohm & Haas Co. FLOOR COVERINGS: Kitchen, dining room

and playroom—asphalt tile, Armstrong Cork Co. WALL COVERINGS—plywood, U. S. Plywood Corp. PAINTS: Samuel Cabot, Inc. KITCHEN EQUIPMENT: Range—Hotpoint, Inc.; Refrigerator and dishwasher—General Electric Co. BATHROOM EQUIPMENT—American Radiator-Standard Sanitary Corp. HEATING—radiant floor system, Trane Co.; Regulator—Minneapolis-Honeywell Regulator Co. Water Heater—Taco Heaters, Inc.



LARGE THREE-LEVEL HOUSE is fitted into surrounding terrain

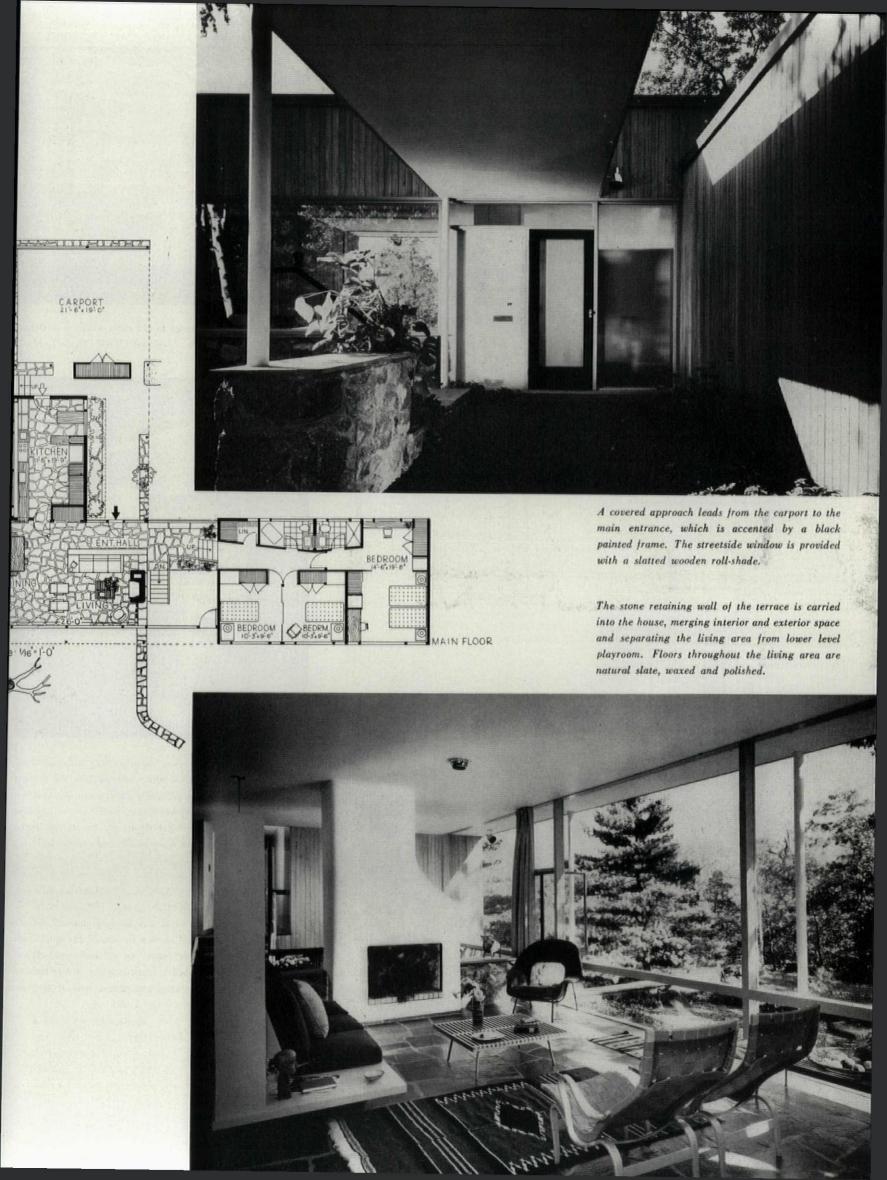
THE ARCHITECTS COLLABORATIVE, Architects DONALD TAIT, General Contractor



A totally different project from the Six Moon Hill group shown on preceding pages, this house in Belmont, Mass. might be called the Cadillac model of The Architects Collaborative. Here the architects had a rare opportunity to carry through design, landscaping, and furnishing of the house in a single operation.

They started with the ground. The unique feature of the house is the almost sleight-of-hand eleverness with which its three different levels face three different kinds of terrain with three different kinds of character, never losing the homogenous quality of the whole. To the nearby street the house presents a discreet cypress front with a low silhouette to blend with a conventional neighborhood. On the side away from the street the one-story top-floor living area turns an all-glass face to tree-covered, rolling ground. The two floors of the sleeping and playroom areas front on a smooth lawn at the lower level. The focal point of these different elements is a big central open stairwell, walled with glass extending the full height of the houses where the three levels converge.

From almost any viewpoint, the open plan of the house gives a sense of spaciousness, yet the split level arrangement of living and sleeping areas insures privacy where it is needed. On the upper level, the master bedroom and bath may be closed off from the childrens' section; the location of lower level bedroom provides seclusion for the parents of the owner.





Doors of cabinets above kitchen counters are ¼-in. tempered fiber board, painted in blue, rose, buff and yellow. Windows look out on the play and drying yard, which is separated from the terrace by a high fence.

washer

. .

range

00

pass-through

dishwasher under breakfast table

refrigerator

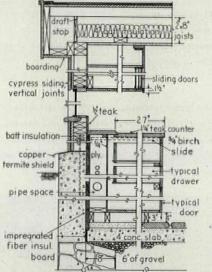
teak counter

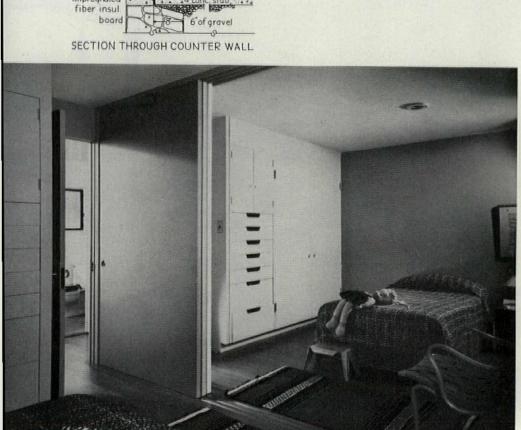
bread

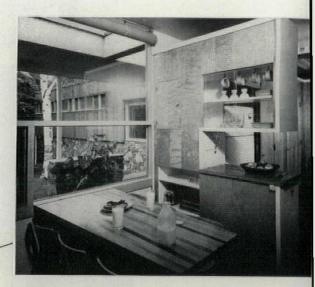
broom

general storage

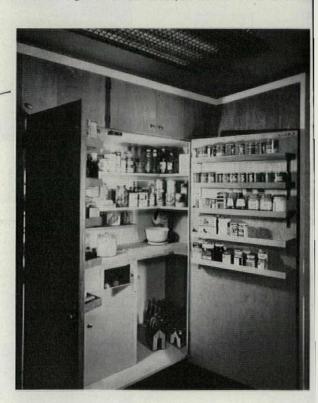
shelves







Roof of the covered passage to the main entrance is slotted to let sunlight in on the breakfast alcove. Table is birch.



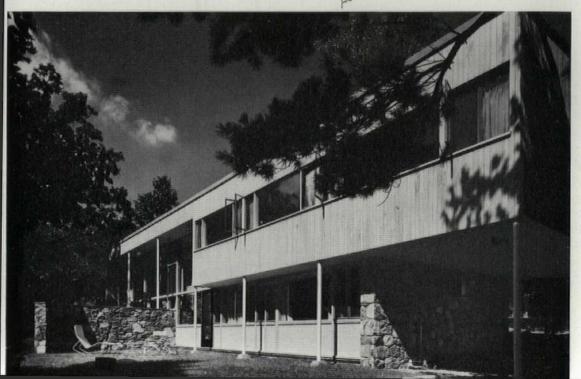
In a kitchen which combines warm finishes and watchlike precision of planning, sink, stove and washers are massed in line on the window side, while refrigerator and natural birch storage cabinets are handled as a unit on the opposite wall. Shelves on the cabinet doors add to storage space and make food containers more visible and accessible.

Three hollow-core plywood panels, each painted a light contrasting color, may be opened to convert the girls' bedrooms into a single play space. In all bedrooms, closets and bureaus are supplanted by built-in units. White painted siding, laid vertically, accents the curved wall of the corridor separating bedrooms from bathrooms.



Glass extends the full height of the house at the stairwell, and a black painted birch handrail ties together the three levels. Streetside window is covered by a wooden shade. Space at the bottom of the stair may be curtained off as an extra bedroom.





Overhangs in the cleanly sculptured southern facade shield windows from the summer sun. White lally columns support the light frame construction and provide snap lines against cypress siding, gray painted panels and walls of stone blasted from the site.

CONSTRUCTION OUTLINE: Exterior walls—12 in. stone and 4 in. cinder block, air space, plaster or cypress siding and rough boarding. ROOFING—The Barrett Div., Allied Chemical & Dye Corp. INSULATION—4 in. Fiberglas, Owens-Corning Fiberglas Corp. WINDOWS: Sash—steel, Hope's Windows, Inc. Glass—plate. HARDWARE—W. C. Vaughn. ELECTRICAL FIXTURES—Century Lighting Co. KITCHEN EQUIPMENT: Range and dishwasher—Hotpoint, Inc. Washing machine—Westinghouse Electric Corp. PLUMBING FIXTURES—Crane Co. HEATING—radiant system.

BUILDER'S \$30,000 HOUSE features an air cooling and filtering system plus an equipment-and-gadget pack

age containing everything from a kitchen stove to a built-in jewel safe

LOCATION: Hewlett Harbor, Long Island BALLIN, LOWEY & KESSLER, Designers E. A. BALLIN, Builder

This is a good example of how a merchant builder can provide more value for the money in the luxury market than most contract builders normally put in tailor-made houses. It is a value-packed house at a low selling price of \$10 per sq. ft. including lot. Not only does Builder Ballin include almost every luxury gadget and machine known to the building industry, but he is merchandising something which the industry knows little about. It is controlled atmosphere: Ballin's house is not only air cooled, but it has an electronic air filter for eliminating dust and other impurities.

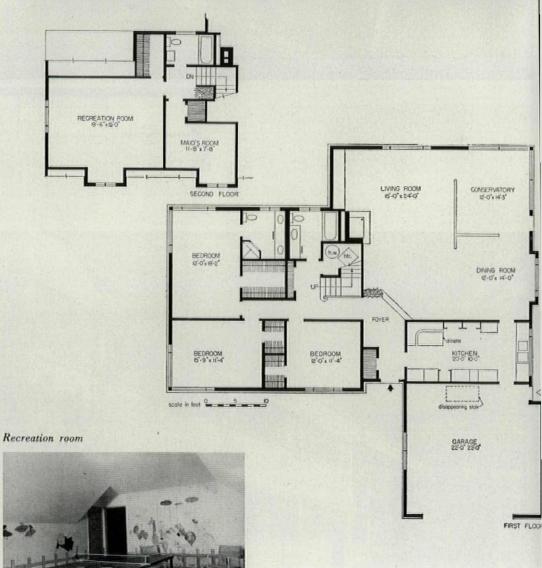
Ballin's decision to step ahead of the market with his air control devices has paid off handsomely: he sold out his subdivision of 50 houses within a week. The house's elbowroom size (3,000 sq. ft.) and its luxury features were important sales factors but atmosphere control was the merchandising clincher.

The other features: sink-dishwasher, home freezer, automatic laundry and drier, refrigerator, rotary ironer, electric range, doubleglazed windows throughout, circuit breakers instead of fuses, built-in bookshelves, record and liquor cabinet, hidden jewel safe, chrome shoe racks and clothes poles, exhaust fans in all baths and kitchen, built-in scale, lights in all closets, colored fixtures throughout, aluminum windows, oversized two-car garage, underground electric and phone wires, built-in closet wardrobes, brick terrace and grill, infrared and ultra-violet lamps in baths.

Both the air cooling system and the electronic filter are hooked directly into a warmair system, so that there is no duplication of ducts. The cooling system, described on the page opposite, is a low cost (\$400) method which Ballin developed himself. The electronic filter removes dust, pollen, smoke, fungi and other irritants by electrically charging them as they enter the large box. The particles then pass over a grid whose plates are alternately charged positive and negative. The charged particles cling to these plates. Periodically, the plates are washed by a semi-automatic water spray. The machine has no moving parts and runs on the power needed for a 60-watt lamp. Builder Ballin's initial installations cost about \$600 but he considers the cost fully worth while as a selling point. "It was simply a case of telling the wives that their house would be dust free."

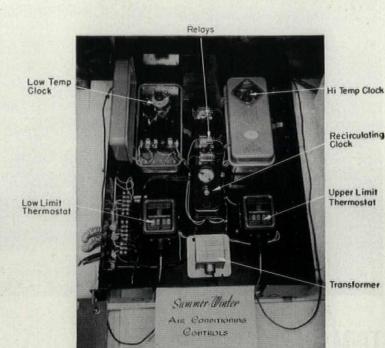


Photos: Gerard Studio.











Kitchen is lined with equipment, has gabled ceiling to accommodate air conditioning ducts.



Bathroom wall over counter-type lavatory is covered with wall-to-wall mirror.



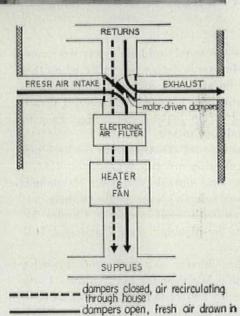
Terrace off living room is paved with brick and has a barbecue fireplace.

The simplest, though not the most effective, way to keep a house cool in hot weather is to open all the windows at night and keep them closed during the day. By storing night-cooled air, most houses can be kept relatively comfortable in the daytime. This well-known phenomenon is the basis for the low cost (\$400-a-house) air cooling system which Builder Ballin hopes will keep his new houses cool all summer.

Ballin's cooling-by-air relies entirely on outdoor temperature variations instead of mechanical cooling. The heart of the system is a small mechanical damper located in the main return duct of the house's warm air system and regulated by a complicated system of controls. The damper controls the flow of outdoor air into the house and the expelling of "used" indoor air (see diagram). It is regulated so that it brings in a fresh supply of air for two hours every day in the year, not only during the warm weather. The damper control system has two outside thermostats-a "winter" system which is usually set at 68° and a "summer" system at 72°. The 4° difference between the two Ballin calls the comfort zone." As the outside temperature reaches either of these two limits, the motorized damper is activated and a fresh supply of air is brought into the house. If, on a very cold or very hot day, the outdoor temperature does not reach the comfort zone, the controls will activate the damper automatically by clock at relatively advantageous hours. A separate control system regulates the recirculation of this air through the house at 15-minute intervals.

To make sure that his houses would always get sufficiently cooled night air, Ballin checked Weather Bureau reports for years back. He found that, with rare exceptions, the temperature in the New York area always dropped during the night to at least 72° in hot weather.

The important question is to what extent this air is kept cool for 24 hours during warm weather without mechanical cooling. Builder Ballin claims that on warm days he can maintain a constant indoor temperature in the low 70's with the air he stores up during the cool part of the day. Although his house has double-glazed windows and is otherwise well insulated throughout, he expects some leakage. The mere circulation of air can compensate for most of this, he says. Preliminary tests show that indoor temperatures will rise approximately 1° for every 5° rise outside. Thus, under the worst conditions—a jump from the low 70's to the 90's—he expects that indoor temperatures will remain in the middle 70's. Ballin is so convinced that his system is a feasible solution to the problems of cooling a small house that this month he is beginning to manufacture and merchandise his system for use by other builders.



CONSTRUCTION OUTLINE: Exterior walls-brick or stone veneer or Shakertown prestained red cedar shingles, Perma Products Co.; inside-fiber sheathing, Armstrong Cork Co.; studs, Rocklath and plaster, U. S. Gypsum Co. ROOFING—asphalt shingle, The Barrett Div., Allied Chemical & Dye Corp. INSULATION—Fiberglas, Owens-Corning Fiberglas Corp. FIREPLACE: Damper-The Majestic Co. WINDOWS: Sash-aluminum, Vacol, V. E. Anderson Mfg. Co.; Glass-Thermopane, Libbey-Owens-Ford Glass Co. FLOOR COVERINGS: Kitchen-linoleum, Armstrong Cork Co. ELEC-TRICAL INSTALLATION: Wiring system-Romex cable. Switches-toggle. KITCHEN AND LAUN-DRY EQUIPMENT-General Electric Co. BATH-ROOM EQUUIPMENT-Crane Co. HEATINGwarm air system, Century Engineering Corp. Electronic filter—Precipitron, Westinghouse Electric Co. Grilles—Hart & Cooley Mfg. Co. Regulator—Minneapolis Honeywell Regulator Co. Water heater-General Electric Co. Air conditioning: Comfortemp.



TRIM DESIGN and an imaginative site plan are the easy-to-sell products of architect-builder collaboration

"Despite the usual builder's agony over costupping factors in design, we wryly admit that in most instances our architect's insistence on imaginative site planning and careful detailing paid off in making the project easy to build and easy to sell."

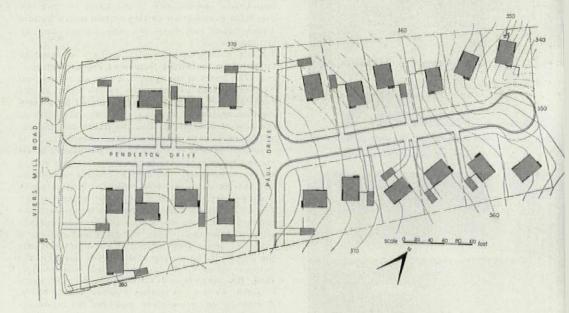
The authors of this tribute to the architectural profession are two Washington (D.C.) builders, Paul Burman and Paul Hammond. They were referring specifically to their collaboration with local architect Charles M. Goodman in planning their Hammond Hill subdivision.

Builders Burman and Hammond formed a partnership last year for two reasons: 1) to make money and 2) to build houses that were a cut above the average Washington subdivision variety. They have succeeded in doing both: their well-designed group of 20 \$10,750 houses was sold out within a week after they opened their model house last March. They have started a five-year program of 600 units.

Goodman was selected as their architect after they saw the work he has done at the highly successful Hollin Hills subdivision in Alexandria, Va. (FORUM, Dec. '49). The houses on the two projects are similar in their use of three solid used-brick walls which serve as anchors for a lightly detailed frame of modular windows and a gabled roof.

Architect Goodman has been particularly successful in siting his houses at Hammond Hill. The problem was that of providing privacy in big-windowed houses which are located relatively close together on 60 x 110 ft. lots. In Goodman's solution, the units are oriented to the southwest and southeast and are so angled to the street that no living room ever looks directly at another house.

LOCATION: Wheaton, Md. CHARLES M. GOODMAN, Architect HAMMOND HOMES, INC., Builders



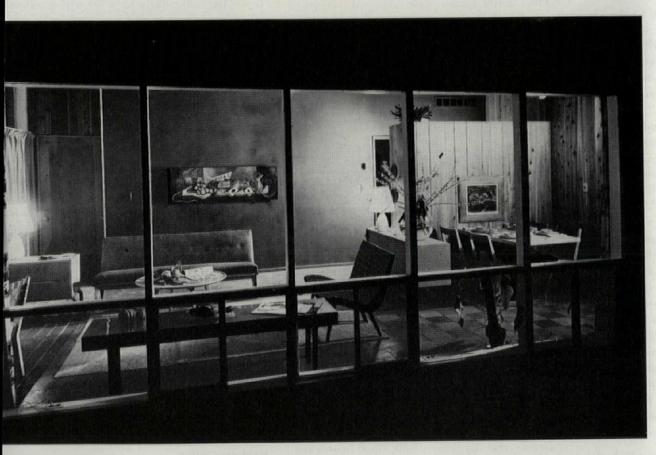
CONSTRUCTION OUTLINE: Exterior wallsbrick, cinder block, fir siding over 1/2 in. Insulite, Insulite Div., Minnesota & Ontario Paper Co., backed by 2 in. Fiberglas, Owens-Corning Fiberglas Corp., 1/2 in. Rocklath, U. S. Gypsum Co. and plaster. Floors-Concrete. Waterproofing -Anti-Hydro Waterproofing Co. ROOFING-4ply tar and gravel. INSULATION-Fiberglas, Owens-Corning Fiberglas Co. FIREPLACE: Damper-Superior Fireplace Co. WINDOWS: Glass-Libbey-Owens-Ford Glass Co. FINISH FLOORS: Living room-oak, Remainder-Kentile, David E. Kennedy, Inc. PAINTS-E. I. du Pont de Nemours & Co. HARDWARE-Schlage Lock Co. ELECTRICAL FIXTURES-Kurt Versen, Inc. KITCHEN EQUIPMENT: Range-Welbilt Stove Co. Refrigerator-Admiral Corp. Fan-Victron, Victor Electric Products, Inc. BATH-ROOM FIXTURES-American Radiator-Standard Sanitary Corp. HEATING—gas-fired, forced air system, C. A. Olsen Co. Regulator-Minneapolis-Honeywell Regulator Co.

COST BREAKDOWN

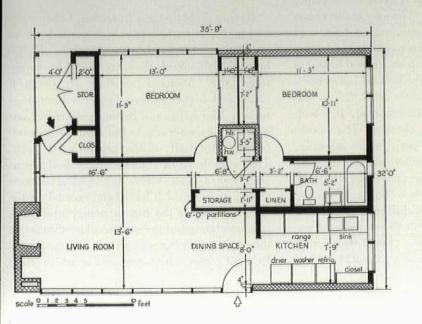
Footings & Slabs 44 Flooring 22 Masonry 9 Plastering 3 Carpentry 1,6 Painting 3 Plumbing and heating 1,3	
Footings & Slabs 44 Flooring 22 Masonry 93 Plastering 33 Carpentry 1,6 Painting 3 Plumbing and heating 1,3	00
Flooring 2 Masonry 9 Plastering 3 Carpentry 1,6 Painting 3 Plumbing and heating 1,3	00
Masonry 9 Plastering 3 Carpentry 1,6 Painting 3 Plumbing and heating 1,3	00
Plastering 3 Carpentry 1,6 Painting 3 Plumbing and heating 1,3	25
Carpentry 1,6 Painting 3 Plumbing and heating 1,3	20
Painting	00
Plumbing and heating	10
	75
Firesulation	10
Electricity 1	50
Glazing 2	00
Hardware 2	00
Roofing 2	50
	00
Landscaping 2	00
Walks, clean-up, taxes, misc 4	80
Loan cost survey and overhead 1,4	20
Architect's fee 2	00
Profit 7	50
Total \$10,7	50



Houses are placed to provide good orientation and sight lines.



Window module is the standard 3 ft. 1 in. factory-made sash.





RECORD-BREAKING HOUSE PRODUCTION

is achieved by a team of big builders who use every cost

cutting device—except an architect. Result: 100 houses a day at \$7 a sq. ft.—but they are just houses

LOCATION: Los Angeles, Calif. AETNA CONSTRUCTION, INC. and BILTMORE HOMES, INC., Builders

The biggest single example of 1950's Great Housebuilding Boom in action is on the site of an old sugar-beet farm ten miles south of Los Angeles. Here, since April, houses have been started at the thumping rate of 100 a working day. Final production goal: 17,150 houses, all to be completed within the next two years. How this goal will be reached is a production story of significance to everyone who plans to build more than a handful of houses this year.

Of Lakewood—the beet farm's subdivision name—it can be said that never have so many houses been scheduled to be built in one place in so short a time. In a year when U. S. builders were busy racking up new production records, none could boast an operation which, for sheer size, came close to it. Everything about the Lakewood job is scaled big. It will cost \$150 million. Its 3,500 acres will have 133 miles of streets, 21 shopping centers, 12 churches, 10 schools. The project's potential population—70,000 persons—is more than such old-line towns as Portland, Me. or Spring-field, Ohio.

The big project is the joint product of two Los Angeles builders—tough, heavy-browed Lou Boyar of the Aetna Construction Co. and balding, London-born Mark Taper of Biltmore Homes Inc. Both Boyar and Taper are old—and competitive—hands at the small house business: during the past ten years, their organizations have built 30,000 units in the Los Angeles area. Lakewood is merely an expanded version of what they have been doing all along. The reason why they teamed up on the Lakewood job was simple: neither was big enough to do it himself. They both had their





Big leaguers Taper and Boyar

eye on the Lakewood property—a pancake flat tract which sprawled over eight square miles between Los Angeles and Long Beach. The owners had steadfastly refused to sell it piecemeal; they wanted \$9.7 million for the whole thing. Builders Boyar and Taper decided to buy the land together in January and develop it on a 50-50 basis. They set up a corporation, Lakewood Park, and rushed their big plans so that they could catch the Spring buying market.

Big market; big sales

Both Boyar and Taper were cocky enough to believe they could build 17,000 houses in two years. The big question was: could they sell them? Events so far have shown they can. Sales are running well ahead of production in the first six weeks since ground was broken. Over 2,100 houses have been sold before a single family has moved in. Every weekend an average of 10,000 Los Angelenos have swarmed over the site to visit its 13 model houses. (On one monumental Sunday, the crowd hit 30,000). Most of them come to gawk at the big project and its little houses but hundreds stay and buy. Sales have run as high as 175 a day.



Lot picking at Lakewood

The reasons for this high sales record are substantially the same as those which have sparked the house buying booms on thousands of other subdivisions throughout the country. Briefly, they are: easy credit, small houses and aggressive salesmanship. Lakewood is amply supplied with all three. The easy credit comes in the form of full VA-guaranteed 4 per cent mortgages with no down payment except for closing charges. The 850 sq. ft. two-bedroom house which makes up the bulk of Lakewood's production sells for as little as \$7,825 including land (or about \$9.10 per sq. ft.) with \$43 a month carrying charges. The houses are merchandised by a corps of 50 salesmen, assisted by a \$50,000-a-month advertising budget that includes all the attention-getting devices known to the house-selling art. Among them: television, radio, billboards, newspapers plus toy balloons for the moppets of potential Lakewood buyers. (For a description of the selling operation, see page 224.)

In addition to these "normal" reasons for the selling boom at Lakewood, the projec owes its big-league size to the phenomena postwar expansion of Los Angeles itself. Well known is the story of L. A.'s big wartime expansion; less familiar is the fact that the town has matched its wartime growth since V-J Day. One by-product of this boom has been increasing pressure for more housing: in the past four years, the area has been the prime housebuilding (and selling) market in the country. Despite its size, Lakewood will be a very minor part of the total housebuilding done in Metropolitan Los Angeles this year. Its 8,000 starts in 1950 will be about 10 per cent of the houses produced in the area.

High finance

Because Boyar and Taper know their building-and because their Lakewood project was aimed at meeting the terrific demand for lower cost housing-they had no trouble lining up adequate financing for the job. The Veterans Administration gave them a full appraisal and mortgage commitment on their stucco-andframe houses, thus eliminating the need for a downpayment. (FHA was by-passed because, at the time, it would have required a 10 per cent down payment.) The two builders then negotiated with market-wise Investors Diversified Services, Inc. for construction money and permanent mortgages. Investors agreed to handle the first \$35 million of the \$136 million total. Construction money was loaned at 5 per cent plus the going Los Angeles 11/2-point premium. At the present rate of construction Investor's \$35 million will last until midsummer. After that, a number of insurance companies-notably Prudential-are reported signed to handle the rest of the financing.

Mass production

Having lined up their financing, Lakewood's builders next turned to the king-sized job of organizing the production of their 17,000 houses. In general, they are doing a conventional site operation but they are doing it faster and bigger than it has ever been done before. The Aetna and Biltmore organizations operate independently in the field, each developing about half of the project's 40 tracts. They each have in common such facilities as supply yards, sales offices and two big concrete mixing plants which have been erected on the site. Except for the big carpentry operation, common labor and the white-collar office force, the project is being subbed out to contractors. In most cases, they are outfits which have vorked with Boyar or Taper before, know low to keep up with their quick pace.

Construction costs are being kept to about 7 a sq. ft.—a very low figure for a unionhop operation in a high-cost area like Los angeles. Part of the reason for this clippedown cost is the advantages that come from nass purchasing. Lakewood's construction pecifications pack a big statistical wallop. ncluded are such items as 171 million bd. ft. f lumber, 1,700 tons of nails, 220,000 doors, nough concrete for 266 miles of curbs and 08 acres of sidewalks. Nickels and dimes nocked off material prices as a result of arge-scale buying add up to savings of hunreds of thousands of dollars in overall contruction costs. Both Boyar and Taper are inderstandably reticent to discuss specific deails of their material discounts; it is no secret, lowever, that they drove some hard bargains n dispensing some of the biggest orders ever placed in the housebuilding industry.

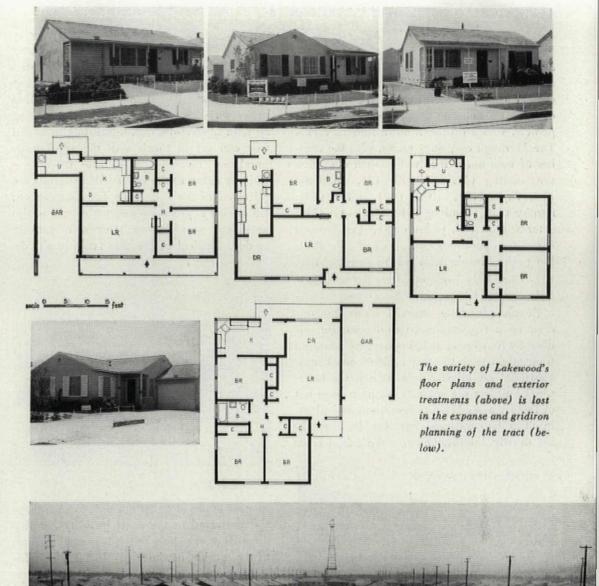
Supplementing these procurement economies, Boyar and Taper are keeping a close vatch on their site production costs. In general, they have attacked the problem in four ways: 1) a carefully controlled production chedule, 2) specialized use of labor, 3) careful control of materials deliveries and 4) intensive use of labor-saving machinery. In view of the size of the Lakewood project, and the speed at which it is being built, a closer examination of each of these factors is in order.

Controlled production

Construction is geared to a 45-day schedule to coincide with the VA's three construction inspections—the first when the foundation is completed, the second when the house is framed in and the third when it is finished. The reason for pegging the construction pace to VA's inspection is that, aside from material shortages and strikes, the VA is the only important "outside" factor which can tie up the building operation. When the project is in high-gear this summer-100 units a day-VA inspectors will be checking 300 houses a day in varying stages of construction. Says one Lakewood superintendent: "Our job is to make sure that the 300 houses are ready to pass the inspection. If they are not, we'll be jammed up all along the line and it will be hard to catch up."

Specialized labor

A highly specialized labor operation is a key part of Boyar and Taper's plan to avoid such tie-ups. The 4,000-man labor force is





Photos: James Mason

WORK SCHEDULE

The following table shows the 45-day construction schedule for a typical Lakewood house:

Day	Activity
1	FIRST VA INSPECTION:
	concrete pouring & underfloor plumbing
3	Mud sills carpentry
4	Sub-floors; start wiring, plumbing, heating
5	Raising
6	Rafters
7	Sheathing
8	Sheet metal; begin shingling
13	Rough electrical inspection
14	Rough plumbing inspection
15	Rough heating inspection
16	Exterior lathing
17	SECOND VA INSPECTION
20	Interior lath
23	Plaster started
27	Doors & interior trim
29	Hardwood floors; finish plastering
30	Porches, steps, flat work, finish grading, tile, color coat, gutters, exterior trim
32	Interior paint finish
35	Linoleum & runner tile
37	Final electrical inspection
38	Final plumbing inspection
39	Final heating inspection
42	Floors finished
45	FINAL VA INSPECTION; house cleaning, weatherstrip, finish hardware, screens

CONSTRUCTION OUTLINE: Foundations-concrete. Exterior walls-stucco on Keystone mesh, Keystone Steel & Wire Co., building paper, Douglas fir studs and plates, gypsum plaster board, U. S. Gypsum Co. and interior stucco. ROOFING-cedar shingles. SHEET METAL WORK-26 gauge galvanized iron. WINDOWS: Sash-pine, Ham-Lumber Co. Glass-single strength, quality B. FINISH FLOORS: Main rooms-white oak, E. L. Bruce Co. Kitchen-linoleum. Bathroomsrubber tile. WALL COVERINGSwallpaper. HARDWARE: Locks-Westwood Mfg. Co. KITCHEN EQUIP-MENT: Range-O'Keefe & Merrit Co. Refrigerator-Norge Div., Borg-Warner Corp. Sink-Waste King garbage disposer, Given Mfg. Co. LAUNDRY EQUIPMENT: Washing machine Bendix Home Appliances, Inc. HEAT-ING-warm air system, dual floor furnace, S. T. Johnson Co.

broken down into specialized crews to a point seldom seen in U. S. building. There are 30 crews for each house instead of the usual four or five. Particularly specialized are the carpenters, who are broken down into 19 crews. The 11 rough carpentry crews, with the number of man hours involved in each operation are: cutting (4), mud sills (4), sub-floors (16), layout (7), raising (40), rafters (18), cornice (11), sheathing (11), frames set (11), exterior trim (8), pick-up (9). The finished carpentry operations are: plywood (2), doors hung (5), inside trim (16), exterior trim (4), base (4), hardware (4), garage doors (3), pick-up (2).

Rough plumbing—usually done by one crew on a regular subdivision operation—is done by four crews at Lakewood. By adopting what might seem to other builders an extreme viewpoint on labor specialization, the Lakewood builders are actually taking a page out of factory assembly-line operations and adapting it to their own use. Says Builder Taper in his drawly English voice: "We found from



Every man a specialist

experience that the fewer things a man has to do, the quicker he can do them. These men know what they have to do and they can do it blindfolded. They get it right. They never have to stop and scratch their heads. It's all been worked out for them." One important corollary to this thesis, of course, is that the work schedule be so planned that the specialized crews can move from one house site to the next without delay. At Lakewood, this is controlled by a master schedule of building starts, with labor, machines and materials carefully allocated for months ahead. The building sequence is so arranged that crews do a minimum amount of moving from one job to the next. In general, this means building up one side of the street and down the other.

Materials delivery

Most of the materials used in the operation are brought directly to the individual building sites from the suppliers' warehouses to cut down handling costs and delays. Stockpiling for any length of time on the site would be, among other things, a bankroll-breaking proposition. Whatever stockpiling is done—and it is enough to build a subdivision of average size—is a hedge against possible future delivery delays. (Another hedge: equipping all field supervisors with walkie-talkies so that they can get in touch with the appropriate warehouse immediately in case there is a delivery delay to the site.) All materials are delivered to the site, ready for construction: the lumber is precut; pipes, wiring and equipment are provided in the exact quantity needed. Typical of the care taken in site de-



Everything in place

Graphic House

liveries is the fact that not only is each material delivered in the exact quantity but it is dumped on the site where it is most convenient to the workmen who are using it. Shingles, for instance, are delivered by forklift trucks which put them to the roof of the house.

Power equipment

The forklift for the shingles is only one of a score of different machines used to speed the site operation. Foundation trenches are dug in 15 minutes by flail diggers. Curbs are laid by a traveling concrete machine which squirts the mix into the curb forms at the rate of 400 ft, an hour. Lumber is precut with 650 straight power saws and 20 radial saws, then moved to the site on one of 40 trucks. Eighteen automatic nailing machines cut the sub-floor nailing operation in half. Doors are put in place by 60 power door-hanging machines.

The product

The end product of this assembly-line operation is block after block of stucco-and-frame houses which, with some exceptions, are as standardized as the process which spawned them. The monotony of 17,000 small houses clumped together on 50 ft. lots along straight streets on a flat plain are an open invitation to criticism. The builders of Lakewood have half-heartedly tried to avoid this and with only partial success. In Lou Boyar's half of the operation, there are seven different house models; Mark Taper has eight. The differences between individual houses are, in some cases, considerable. Roof lines are varied,

color and wood veneers have been used effectively. Unfortunately, the builders muffed on of their best chances to achieve some overal variation when they specified gridiron street instead of a curvilinear pattern. This serious land-planning defect reflects the fact that the whole project was assembled without professional architectural advice. The house were designed by a drafting service with revisions by the Lakewood sales staff in the interests of "market appeal."

Despite their pedestrian design and siting Lakewood's houses are among the best buy for middle-income veteran families in Lo Angeles. Prices of the 850 sq. ft., two-bed room house range from \$7,825 to \$8,800, with monthly payments of \$43 to \$50, including insurance and taxes. The 1,050 sq. ft., three bedroom models range between \$8,800 and \$9,600, with a \$53 to \$55 monthly payment Variations in price depend largely on wha kitchen equipment is included. However, al houses have a garage, a space heater and sink with a built-in garbage disposer. Thi disposer has high priority in the selling spiel of Lakewood's 50 salesmen. ("You'll be living in the only town on earth without garbage."

Selling operation

Goaded on by Lakewood's \$50,000-a-month advertising campaign (see p. 224), ex-GIs in the Los Angeles area have been buying into the project without let-up during the past two months. Once a buyer is spotted by a mode house salesman, he is ushered to the main sales office a 17,000 sq. ft. hangar-like building located nearby. Here another salesman i assigned to the prospect for the "polishing off." Together they step into one of the 50 selling booths where the prospect's lingering doubts are usually dispelled, a lot is chosen a sales purchase agreement signed, and escrow payments arranged. The next day, the mortgage application papers are taken down to the Veteran's Administration and Investor's Diversified Services, Inc. for processing. They are usually returned within a week.

Now that their housebuilding and selling campaign is well under way, Builders Boyar and Taper are turning their attention to the profitable business of building and leasing the shopping centers at Lakewood. They haven't plans yet but there are enough noisy rumors circulating through the Los Angeles mortgage houses to assure everyone concerned that the plans will be big. The main center will encompass 135 acres in the center of the project; 20 smaller ones will be spotted throughout the project. With a "guaranteed" market of 17,150 families as bait, partners Boyar and Taper should be able to hook some blue-chip chain and department stores as the nuclei for Lakewood's commercial centers.

(Continued on page 224)

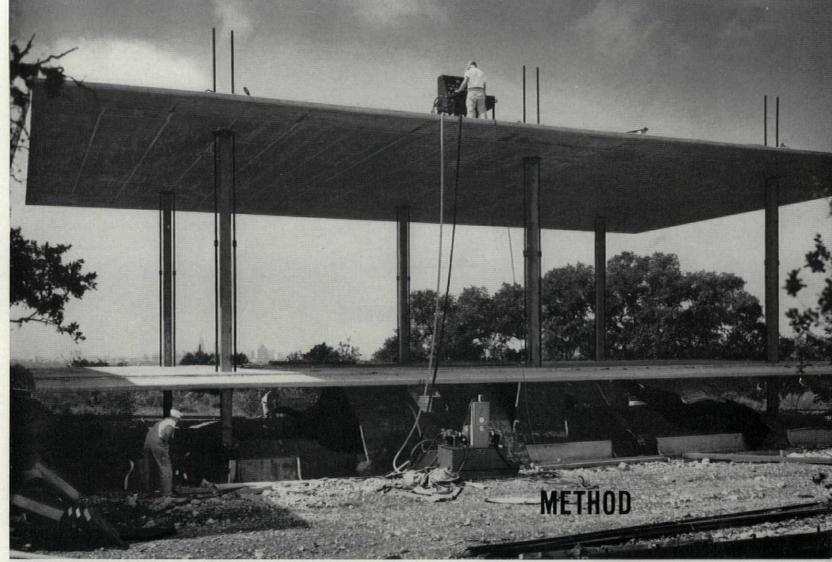


Photo Associates

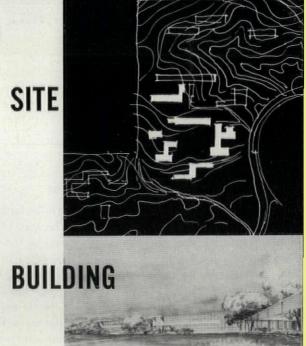
A NEW STRUCTURAL METHOD builds a new campus: slabs poured on the ground and jacked into place are saving money for Trinity College

Trinity College (1,400 students) is moving bag and baggage to a brand new hilltop campus outside San Antonio. The move will help drive the collegiate Goths into the sea, for these new buildings will add a bright new link to the slim bracelet of honestly planned American colleges. They also introduce a new erection system to give dramatic evidence that handsome contemporary buildings can be built far more economically than traditional echoes.

The first building, housing classrooms and administration offices, is nearly finished. It is no example of the graceful art of compromise—of what can be saved from the usual conflict between vistas, H-columns, and impressionable alumni. Instead it shows how an investigation into the roots of the problem of building a college can inspire the overall planning, the structural investigation, and the specific building design all in the same direction very early, and so diminish the need for compromise along the way.

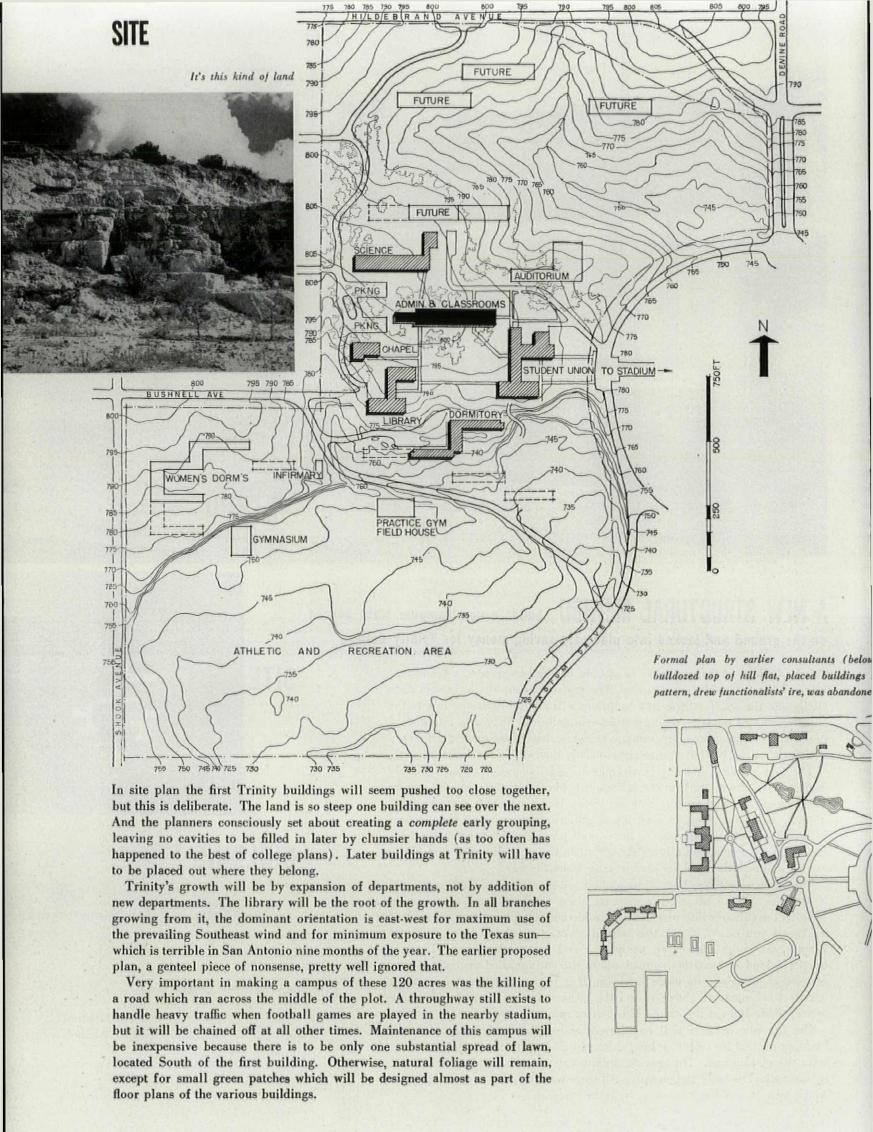
The big news in the project is method—the successful use of the long-bruited Youtz-Slick System of pouring concrete slabs on the ground, then jacking them up the columns into place. This sizable building proves that the method works—if you doubt it, ask the general contractor, who bid the job in at 12 per cent under his nearest competitor and still made money. There is usually a kind of constructive madness in the untrammeled methods of progressive engineering; its name is vision, if it works. Sometimes even when it does work madness shows up on the account books, when the ideas are first applied. But not this time. This system saved money.

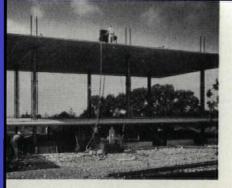
The site plan also is well engineered, and exploits this straightforward building method by orienting long sides of buildings to the breeze and away from the glaring sun. The specific architecture of each building is dictated by the method, cleanly and sharply. All three work together to start a campus which men in building can enjoy with the students.



LOCATION: San Antonio, Texas
O'NEIL FORD, BARTLETT COCKE,
HARVEY P. SMITH, Architects
WILLIAM W. WURSTER, Consulting Architect
FRANK T. DROUGHT CO.,
Mechanical and Structural Engineers

FRED N. SEVERUD, Consulting Engineer
JAMES T, STUART & CO., General Contractor



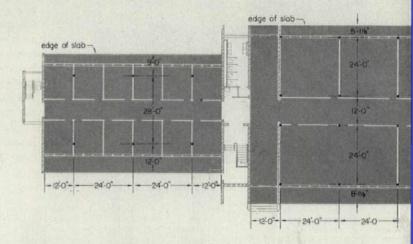


METHOD

ne Slick-Youtz system is one of ingenious simplicity.

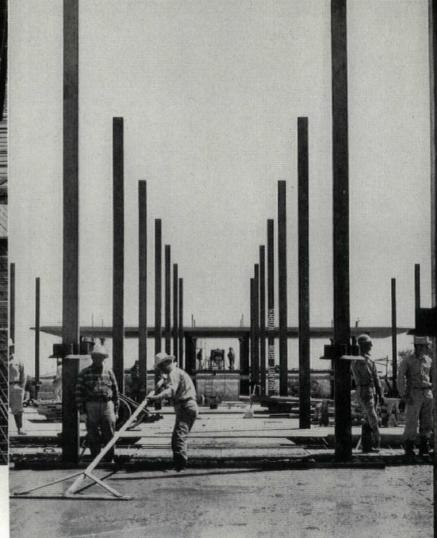
All the slabs are poured on the ground and almost no formwork is necessary. rchitect O'Neil Ford asks: "Why build a wood building, first, to build a ncrete building in?) Workmen can place the steel easily and quickly, and thout any danger from height. They can pour the concrete without first isting it up in the air-they pour one slab, then put sheets of paper on it, en place more steel and pour the next slab. Then after the slabs cure ten ys a three-man crew puts hydraulic jacks on the top of each column and bists them. No extra reinforcing is required in the slabs because the essure of hoisting comes where the column supports will be anyway. They e supported at the columns (which are two angles welded in a square) by ocks welded under the collars cast into the slab for the hoisting machinery grab. Completed, this first building will have cost \$283,000 or \$6.37 per ft. of enclosed space. Its architects say the prevailing local cost for this pe building is \$9 to \$10 per sq. ft., and they have examples to back this up. art of the saving came directly from the method of building—a direct saving \$24,000 is the estimate of the lift slab over the construction of formwork, at savings came also in the design simplifications which the direct solution couraged ("It's all simple; there are no special cases"), and in speed of e whole job. It was started February 1, and John Henry, efficient young pervisor of the job for the John Stewart Contracting Co., says it could ave been completed July 1, if his suppliers had believed the delivery dates gave them for various components. The slabs go up fast, and once they are o, the stud guns start shooting bolts into the concrete and then everything hung on fast.

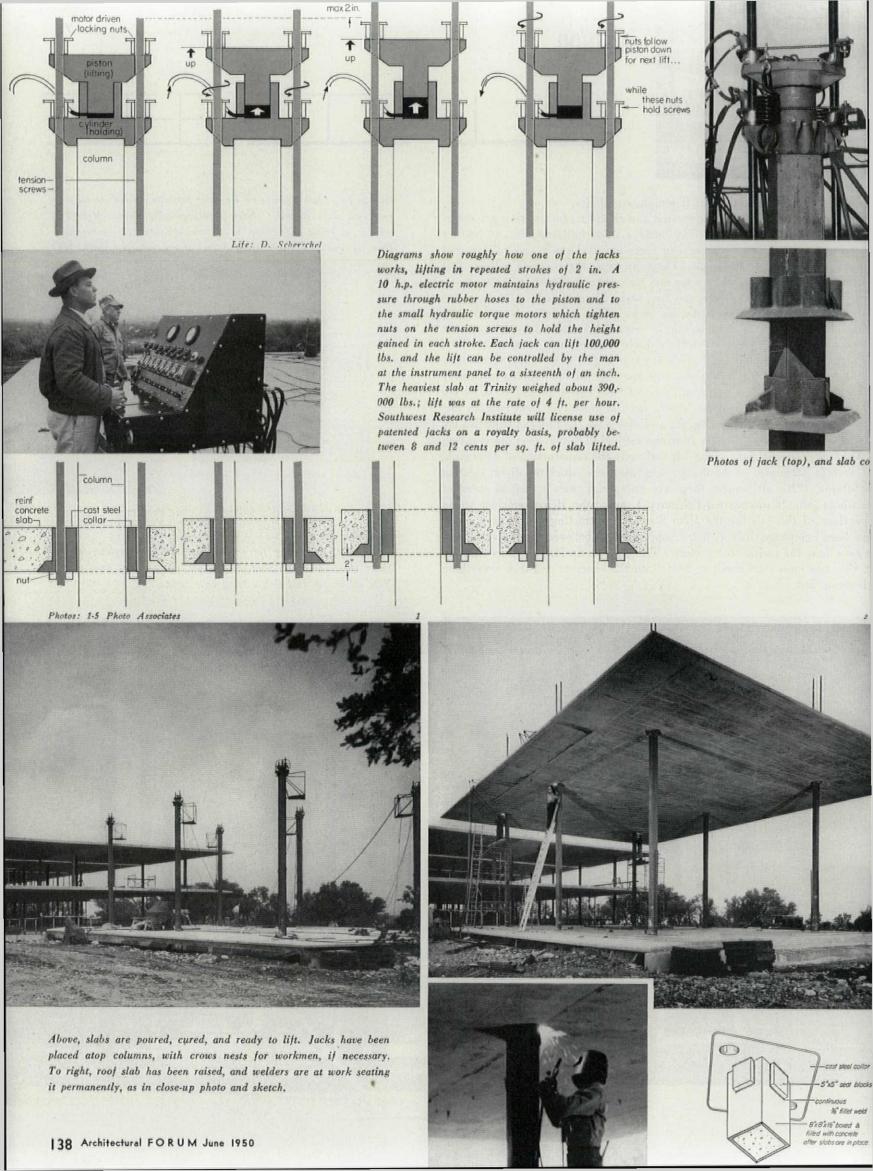
Oilman Tom Slick's Southwest Research Institute hoisted second floor and roof slabs in order shown diagramatically above. Method is named for Slick and Philip Youtz, who developed it concurrently. Plan of one end of building below shows column spacing and cantilevers.



Below, left, reinforcing for second floor slab is complete, laid on paper sheets over first floor slab. Right, concrete has been placed. Note collars for roof slab waiting on columns.





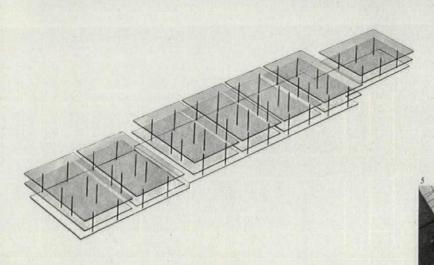


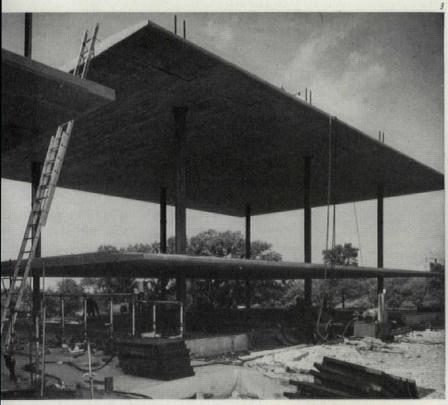
r photo and diagram to right show how e building was raised in seven sections. The otruding reinforcing bars of these secns were then knit together by poured-inace concrete in the narrow lanes left between isted slabs. (Two wide lanes left open are r plumbing and stair wells.)

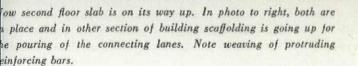
The small lanes between adjacent slabs were eful for two purposes, according to engineer ed Severud: on a normal job it cannot be pected to get all the slabs exactly the same ickness; also if the slabs are cured under fferent conditions some may warp a little d others may not. The poured lane can be ed to adjust small differences in level. It so is helpful from a structural standpoint, nce long cantilevered slabs have a tendency shiver, even if designed properly for safety. ut connected by the strip of poured concrete to which reinforcement from each slab is tended, they do not shiver and also are ronger. Severud estimates the maximum actical span for these flat slabs at between and 30 ft, or up to 40 ft. if the slabs were estressed.

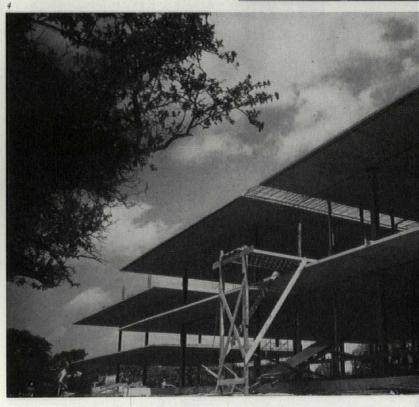
In high buildings constructed this way ich as a ten-story hotel now being planned floors are to be poured and raised in inrements of three. Roof slabs can also be issed slightly tilted using these jacks.

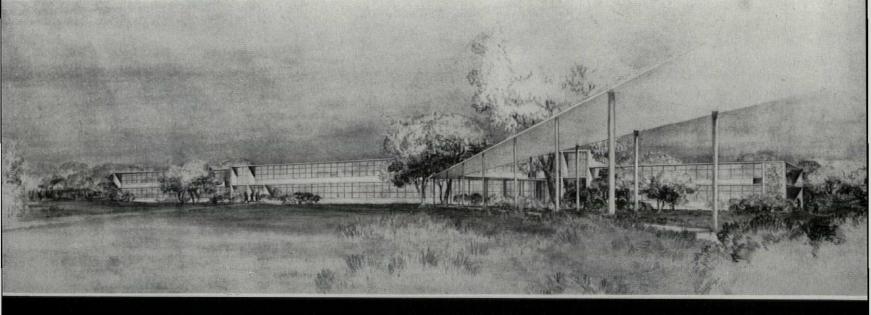


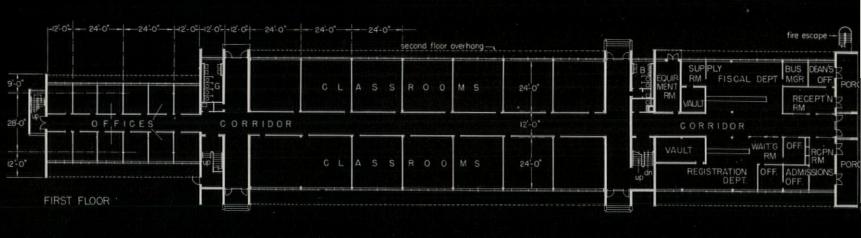


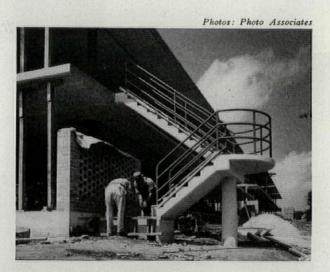














BUILDING

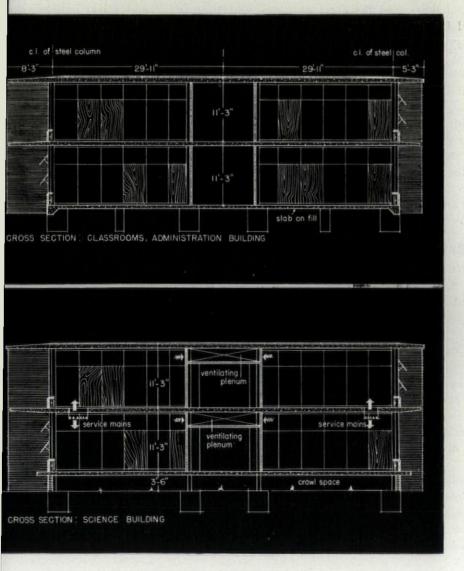
The supervising architect of design on this building, O'Neil Ford, has to say about architectural expression of the new lift-slab method, "For architects who cherish the idea that a building should be an uncomplicated, logic and per se beautiful expression of the nature of the materials from which is built, this system offers a real emancipation . . . Only a confused or egenius could make such a building ugly or dishonest in the pure sense. It wide cantilevers connote shelter, and if curtain walls are just what the teimplies, than a spirited result is possible. It would seem that here is, at la a chance to make window walls really glass, and to make masonry or me walls what they are with no confused mixing of them as has been our custo Columns are columns, roof and floor are slabs, and all other element can just as certainly be separated and designed as separate construction opertions."

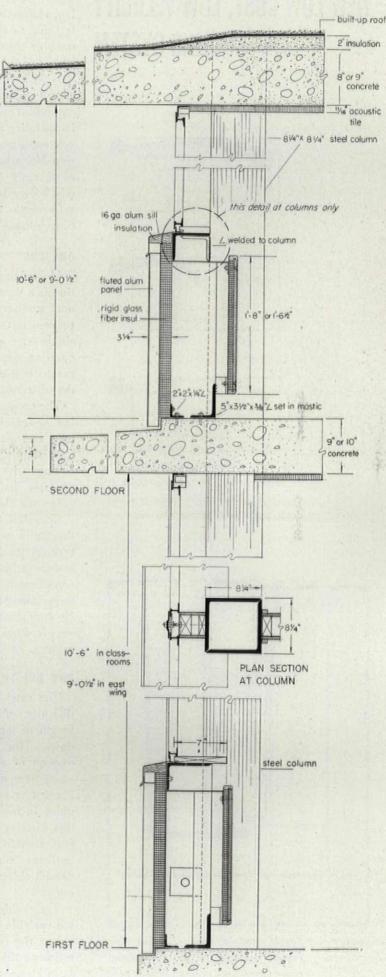
In this first building, Ford and his associates did just that. Once the shelt ing slabs had been hoisted—and that was very early—each subsequent oper tion could work almost independently. It was a very quiet building bei built, with little tumult or confusion. Very few men seemed to be working. There was an intermittent popping of cartridges as stud guns shot bo into the concrete (at a cost of 31 cents for each of the 2,000 studs, against estimated 52 cents each if they had been drilled in). Then crews began putting in the under-window walls, hanging metal skin over composition glassinsulation while workers did other uninterrupted tasks. When finished it we be a simple expression of the method and function, well placed on a beautifusite.



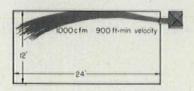
bove is what might have been. It is an early sketch by other architects for the Trinity classroom and administration building, and got as far as publicaon in the building-fund brochure. But then the right combination of ecoomics and idealism brought the trustees over to an entirely new approach, and this first building has further convinced them.

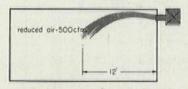
A science building, which is also projected early in the Trinity building rogram, differs from the first classroom building in the amount of plumbing hich must be in each classroom. (See sections below.) Outlets for comressed air, gas, water, and electricity have to be available near laboratory ables, necessitating many penetrations of the floor slab. This will be solved efore the lifting by casting sleeves in the slab 4 ft. on center at the perimeter and 12 ft. on center near the hall partition. Each will be covered with a brass late with knockout holes in it. Pipes will be run naked on the ceiling of the irst floor, to feed down into first floor classrooms and up through the slab o the second floor. This building will have forced ventilation with ducts in urred down hall ceilings, and will use hall partitions as display cases for quipment.





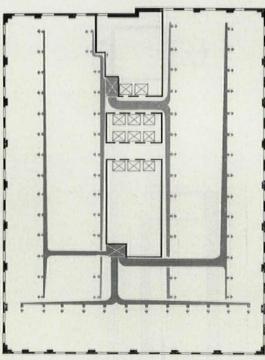
NEW LOW COST, LOW VELOCITY COOLING SYSTEM







Problem of dumping cold air in middle of room at off-peak cooling loads is met by nozzling smaller quantity of air down and thus retaining velocity.



Simple straight runs of ducts save money, and may be run in hallways above furred-down ceilings, saving space.

Midway in today's excited conjecture about the economies possible in high velocity air conditioning, a New York engineer has brought forth a new cut-rate low velocity system. The developer, A. I. McFarlan, claims this new system's performance is equal to conventionally zoned duct layouts, or zone plus window units, and can be installed in any commercial building for only \$2.75 per sq. ft.

The savings are in both duct work and equipment cost, and also follow through in operating cost. No startling or expensive new equipment is used. Instead, in his design McFarlan looks backward to the time of severely simple air-conditioning methods, before demands for greater operational refinements brought their complex solutions into the business.

ONE ZONE

McFarlan's basic air-distribution solution is a very simple one-zone system without auxiliary under-window units. His refinement to the old-time bluntness of the single-zone shoveling of cool air is a nozzling fixture set between the duct and the grille at every room opening to regulate the distribution of air within the room.

The economy in duct work of the McFarlan system lies in the fact that there is only one set of ducts, and the ducts are very simply laid out, not twining across ceilings with great difficulty to the exactly strategic point for distribution of their cargo, the chilled air.

McFarlan runs his ducts straight down the halls with regular rows of outlets through partition walls to the offices. His system is like the interior zone of a more complicated multiple-zone system or interior zone plus under-window unit system. He furs down the hall ceilings to hold the supply ducts, and uses halls themselves as returns.

THE AIR THROW

The catch in his type of layout is the difficulty of distributing air across the length of the individual offices to the windows. This would not be difficult if the amount of air to be introduced into the room were a constant amount, arriving at a constant speed. But conditions vary so much in rooms all over any building that this kind of constancy in introduction of cool air into rooms would seldom result in uniform comfort conditions—the sun doesn't shine on all sides of a building at once.

The problem was to find a way to distribute variable intakes of duct air all the way across the room from a grille on the interior partition. When a stream of 300 cu. ft. of air per minute was needed in the room, it had to be distributed just as complete as a stream of 600 cu. ft. per minute, a though the greater arriving force of the latter stream obviously would make it must easier to throw across the room against the window wall, (see diagram). The small amount of air introduced through the same duct opening would not carry so far acrost the room before dropping down from the ceiling—so the interior of the room would be cooled, but the part near the window would not be.

McFarlan's solution to this problem of distributing cooled air in different amoun into each room all over the building—and distributing it all over each room—is a adjust the size of the stream just as it enter the room. If the room needs 900 cfm, comes in through a large opening at 90 ft, per minute. If the room needs only 50 cfm, the opening is narrowed down with the automatically adjusting nozzle, so that the air's velocity is still 900 ft. per minute and the smaller stream is also thrown a the way across the room. The maximum throw is 30 ft. Static pressure is adjusted at the beginning of each wing of duct.

DUCT COST HALVED

McFarlan's experience with this system (several large installations have been operating for several years) indicates tha the duct cost will average 50 per cent of the duct cost of a system with several zone which is generally about one-third th total cost of the job when ducts are used without under window cabinets. Since two or more areas of different demand (wha might be separate zones in another system can be served from one duct, there are other important initial savings. One fan can re place two or more to drive the air through the ducts. One cooling coil can replace two or more, and there are economies in space for the equipment, as well as in first cost Overall, McFarlan figures the savings of his system over multiple-duct zoned distri bution at about 25 per cent, including duct work and equipment. Use of cabinets or the perimeter of large buildings is gener ally lower in cost than conventionally zoned duct systems, but McFarlan esti mates his system will average about 15 per cent below a cabinet system.

A measure of the appeal of the McFarlan system is in its use in winter heating, when the same coils, pumps (with reduced capacity), controls, ducts, and fans are reversed from their summer function. The system is used in conjunction with radiators, but the first cost of radiation can be materially reduced because of the assistance the converted cooling system will provide. This saving will amount to between 25 and 50 cents per sq. ft. of floor area.

here's how

we make sure Ro-Way doors will

serve BETTER...LONGER!

Each door is built completely in the Ro-Way plant. Then erected by one of Ro-Way's national network of selected distributors.



BETTER BUILT

Only high quality lumber is used. Personally selected by our own buyer at west coast mills.

Panels are made of 3-ply, exterior grade Douglas Fir plywood for maximum resistance to moisture.

Multiple mortisers are used to assure accuracy, uniformity and good fit.

Tenons are cut on both ends in one operation for efficient construction.

BETTER FINISHED

Muntins, rails and stiles are accurately squared up.

Sections are drum-sanded to a fine preliminary finish.

Ro-Way's own workmen then do the final finishing with hand sanders.

All sections are rabbeted carefully to assure weather-tight joints.

BETTER ALL AROUND

All mortise and tenon joints are glued and then steel doweled for strength.

Ro-Way springs are made in our own plant, and power-metered to the weight of the door on which they're used.

Special machines make Ro-Way track rollers with a double-thick tread that wears twice as long.

After all Ro-Way hardware has been fabricated, it is Parkerized and painted for extra protection against rust and streaks that spoil the looks of a door.

ROWE MANUFACTURING COMPANY

968 Holton Street

Galesburg, Illinois, U. S. A.



and address of the Ro-Way Distribute sipped to give you expert installation service

There's a Rollay for every Doorway!



Ro-Way Overhead Type Doors are available for all Industrial, Commercial and Residential Installations.

Up, Up, Up . . . go the sales of Kwikset locks. This phenomenal demand is the result of our determined policy to provide the building industry with the outstanding residential lock value ... a top quality lock, competitively priced for volume sales. Our success in achieving this goal is evidenced by the millions of KWIKSET locks now being sold every year. We have grown rapidly . . . and we intend to continue growing. Our continued growth will necessitate certain changes. Our plant facilities are being increased. Factory-direct service will soon be established. New additions to our present line of locks will be announced shortly. We want you to know about these changes and to understand why they are being made. For all are designed to provide you with a truly outstanding lock value backed by one standard of quality, one source of supply and one responsibility.

MATERIALS AND WORKMANSHIP UNCONDITIONALLY GUARANTEED

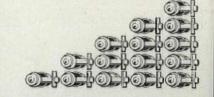
KVIKSETS

· · · Kwikset Reports

Sales

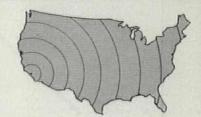
Sales of Kwikset locks are at an all-time high. Millions are being sold annually. This tremendous demand is proof that Kwikset fills a long desired need in the building industry... that they continue to be the outstanding residential lock value in the market. They provide a high quality, low cost lock of infinite beauty, simple to install and unconditionally guaranteed.

What does this mean to you? KWIKSET'S volume sales mean more profits for jobbers and dealers, greater value for builders and home owners.



Marketing Plans KWIKSET LOCKS, INC., is an independently owned and operated manufacturing company. Today, KWIKSET'S entire production is sold through an exclusive distributor whose contract expires before the end of the year. KWIKSET will soon establish a factory-direct sales and service organization to comply with the trade's overwhelming desire to deal directly with the factory.

What does this mean to you? KWIKSET factory-direct sales and service means traditional KWIKSET product quality backed by one source of supply...one standard of responsibility...sound, friendly business relations.



Distribution Policy

KWIKSET pledges complete protection and continued service for jobbers now handling the KWIKSET line. KWIKSET locks will be sold through recognized channels according to legitimate trade practices, at competitive prices and discount rates. Sales efforts of jobbers and dealers will be backed by KWIKSET's aggressive advertising program.

What does this mean to you? To jobbers and dealers, it means greater sales volume, faster turnover, more profits. To builders, it means better and faster service because of wider distribution.



anufacturing

In the past three years Kwikset has increased plant capacity 1000 per cent. Demand continues to be so great that further expansions are now underway. Our plant is a model of modern mass-production efficiency. Thousands of locks come from our assembly lines every working hour. Employee productivity and morale are at an all-time high.

What does this mean to you? Kwikset's advanced manufacturing facilities mean costsaving mass-production. They insure top quality, precision built locks competitively priced for volume sales.



New Products

Our research and engineering departments are continually developing new and improved products for the building industry. We will soon announce an important addition to our present line of 5-pin tumbler locks. These new locks are designed to complement our present line. Many revolutionary advantages will make them the outstanding lock value in their class.

What does this mean to you? KWIKSET will maintain product leadership and customer acceptance by continuing to provide the building industry with oustanding lock values.



ooking Ahead

We approach the future with confidence. Our past success is history. Our future success is dependent upon our ability to provide better products and services to the building industry. We will establish our own factory-direct sales and service organization. We will expand distribution. We will strengthen jobber and dealer relations. We will increase our production facilities. We will introduce new products. All of this will be done to keep Kwikset the outstanding residential lock value in the market.

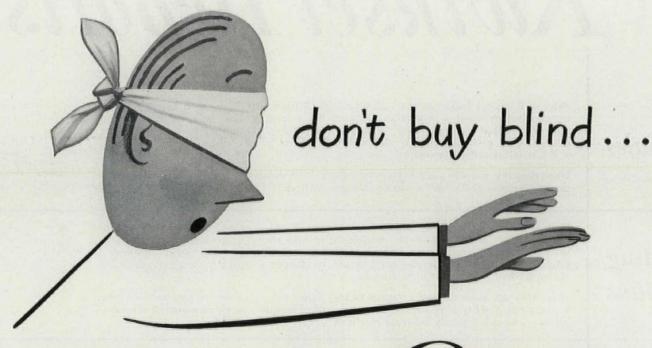


This Message has been presented to tell you about the Kwikset plant, products, policies and plans for the future. We sincerely invite your inquiries and comments. Write: A. Schoepe, President, Kwikset Locks, Inc., Anaheim, California.

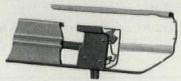
WIKSET LOCKSETS

KWIKSET LOCKS, INC. ANAHEIM, CALIFORNIA

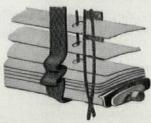
Look to Kwikset to be First and Foremost with Top Quality Residential Hardware



COLUMBIA QUALITY POINTS



AUTOMATIC SAFETY STOP holds blind where you want it—no slipping. All-metal headbox completely encloses satin-smooth working parts.



SNAP-STOP is Columbia's exclusive device that keeps blind from rattling when window is open. Choice of enamelcoated aluminum or steel slats, galvanized to prevent rust. Easy to clean.



ROLLER-LIFT, special mechanical feature for extra large blinds, means easy operation. A child can raise and lower the biggest blind.

makestaperemoval quick and easy.

VENETIAN BLINDS

Some people may tell you that all blinds are alike-but they haven't been around much. Knowing architects-institutional users and builders select blinds with their eyes wide open . . . specify Columbia for unusual requirements and extra quality.

In short, insist on C. C. C. when you specify blinds. You'll get famous Columbia-Controlled-Construction. The man who pays the bills and everyone else using those Columbia Blinds will be thankful when you choose the best. For years and years and years Columbia Blinds will serve them well and beautifully. Remember—the bigger the job—the better the price.

Columbia Venetian Blinds and Window Shades are sold only in leading department and furniture stores and shade shops designated as Columbia Authorized Dealers.

We will gladly submit specifications for Venetian Blinds that can become a part of the General Contractor's bid. This includes a recommendation for correct type of slats and tape; mechanism; method of manufacture and proper installation. Let us call on you and discuss your particular problems.



THE COLUMBIA MILLS, INC. • 428 SOUTH WARREN STREET, SYRACUSE 2, N. Y.

West Coast Hemlock Flooring

D_{ESIGNERS} who seek a durable, economical wood flooring of fine appearance will do well to investigate the possible applications of 4-Square West Coast Hemlock Flooring.

Known as the softwood flooring that "hardens with age", West Coast Hemlock Flooring is extremely durable. This hardening can be accelerated by the use of a floor sealer and hardener.

4-Square Hemlock Flooring is free of pitch and has a pleasing one-tone, silvergray color. When properly sanded and finished, West Coast Hemlock makes a beautiful and serviceable floor.

This 4-Square Flooring is end-matched with a hardwood pattern. It is tongued and grooved at ends and edges to assure a tight floor. It is precision manufactured in 1x3'', lengths $1\frac{1}{2}$ to 12 in bundles 6 to 12.

West Coast Hemlock Flooring is another special Weyerhaeuser 4-Square lumber product that brings extra values to homes, stores, and public buildings. Architects who specify West Coast Hemlock will find it a time proved flooring of unusual beauty and durability.



Design for
COMFORT, BEAUTY
and ECONOMY
with
SPECIAL 4-SQUARE
LUMBER PRODUCTS

Weyerhaeuser 4-Square

LUMBER AND SERVICES

WEYERHAEUSER SALES COMPANY ST. PAUL 1, MINNESOTA

REVIEWS

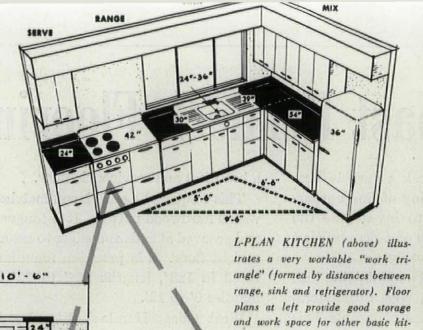
HANDBOOK OF KITCHEN DESIGN. an Investigation in Space Use conducted by th University of Illinois Small Homes Council Agricultural Experiment Station. Ed. by Maxir Kennedy. 73 pp. 81/2 x 11. \$2.00.

Four years ago, when it seemed that the chrom and white enamel of model kitchens had create the ultimate in culinary Utopias, a team kitchen planners at Cornell University, Mar Koll Heiner and Helen McCullough, shattere the dream. These gleaming, plausible fixtures they showed in disillusioning diagrams and fig ures, had very little real relation to the actua storage needs and physical comfort of their users Starting from scratch—the length of a house wife's arm-they re-analyzed the size and position of every piece of kitchen equipment. So dramati was this shift in the psychology of kitchen plan ning (reported in FORUM, February and March '46) that Hotpoint, Inc. underwrote a continuing program of research at the University of Illinoi Small Homes Council to adapt their findings t the average small kitchen. Handbook of Kitchen Design is the third of the resulting reports (th first was on cabinet space; the second, an analy, sis of 103 kitchen plans found in mass-built smal houses). On the basis of the facts established in the earlier booklets, this volume proceeds to demonstrate how well-planned kitchens can be achieved in any small house. The 103 plans studied earlier had revealed what a lack o knowledge was shown in the design of average American kitchens-a lack hard to remedy once its basic pattern had been set. "In most cases' the authors found, "errors were due to faulty architectural planning, such as the size and shape of the room, its location in the general house plan, and the placement of doors and windowserrors which would require major structural re visions to correct."

Before starting to suggest better plans, they sum up the structural limitations in a commonsense way: "most kitchens have limited possibilities for door and window openings. The room may have one, two, rarely three exterior walls. The window must be on an exterior wall and at least one door." Because of the multifarious questions which are involved in a workable kitchen, they specially urge that the placement of windows be left until after the floor plan has been decided on.

Their suggestions take as a planning cornerstone "the work triangle"-a three-sided figure formed by the distances between three basic items of kitchen equipment-refrigerator, sink and range (see illustrations at right). The sum of these three distances should not be over 22 ft., a length which prevents kitchens from being too large as well as too small. "Wasted floor space is highly extravagant when figured in terms of the square-foot cost of the house structure. If the over-all kitchen space is properly planned for required equipment, any deficiency in storage space can be easily corrected . . . By careful planning, it is frequently possible to save enough

(Continued on page 154)



chen types.

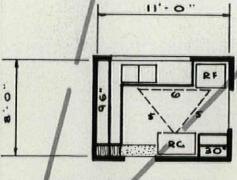
0

CORRIDOR PLAN with limited storage

3"

U-PLAN with medium storage Score: 100

Total wall storage8¾ ft. Total base storage11 ft. Counter (equiv. frontage) 12½ ft. Total area Req. work area 76 sq. ft. Windows: max. width 5½ Percentage of floor area 23.5



BROKEN-U PLAN with liberal storage



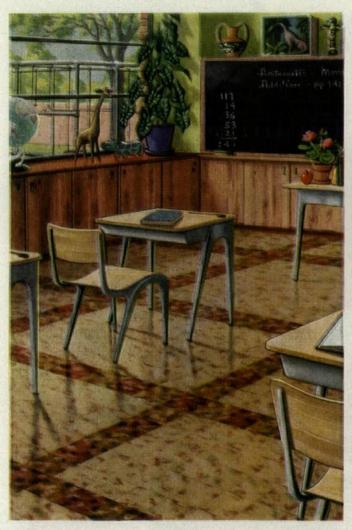
DOOR set in position above requires

only 2 ft. 4 in. for clearance; space

between cabinets opposite each other

(sketch below), should be at least

4 ft.-room for two people.





This is Armstrong's Asphalt Tile

When you're meeting a tight budget but still need an attractive floor that will stand up under hard wear, Armstrong's Asphalt Tile is a logical choice.

The initial cost is low, and it's a floor that keeps maintenance costs at a minimum. Tough and long wearing, Armstrong's Asphalt Tile gives good service even under heavy school traffic.

Armstrong's Asphalt Tile can be used on any type subfloor. It is highly recommended for basements and other places where the sub-

floor is a concrete slab in direct contact with the ground. Armstrong's Asphalt Tile is made to resist the damaging effects of alkaline moisture found in such subfloors.

Armstrong's Asphalt Tile is available in a wide range of colors which makes it easy to work out a color scheme to fit any interior. It is made in two types, Standard for general use and Greaseproof for use in areas where oil and grease is a problem. It is available in two thicknesses, 1/8" and 3/16".

This is Armstrong's Linoleum

Long famous for its handsome appearance and the way it stands up under hard usage, Armstrong's Linoleum is the most popular Armstrong Floor for

> institutions, stores, offices, and public buildings. Moderate in first cost, it offers the greatest choice of color, texture, and pattern. Its cushioning effect makes it quiet and comfortable underfoot.

> Recent manufacturing improvements have made Armstrong's Linoleum tougher and more durable than ever before. Colors have been

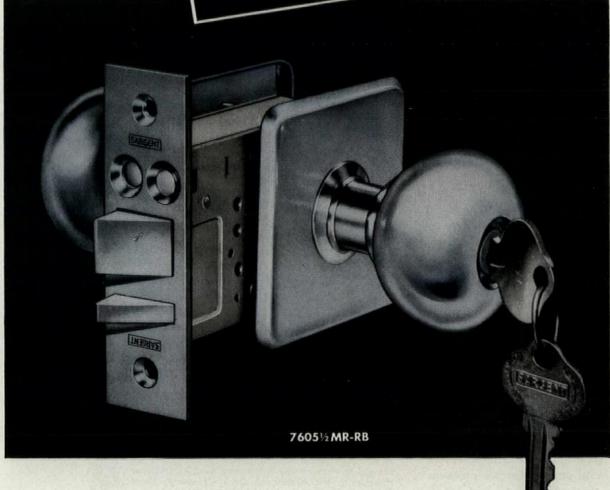
made brighter and richer. It has a smoother surface which further simplifies cleaning. Armstrong's Linoleum is made in six types and in three thicknesses to meet the various service requirements.

For additional data on Armstrong's Resilient Floors—Asphalt Tile, Linoleum, Linotile®, Arlon Tile, Rubber Tile, and Cork Tile—consult Sweet's Architectural File, section 13e, catalog 2. For samples and specifications, as well as help in solving unusual flooring problems, architects are invited to write to any Armstrong District Office or directly to the Armstrong Cork Company, Floor Division, 2606 State St., Lancaster, Pennsylvania.



INTEGRA OCK







beauty -

round or square roses, sleek knobs to complement the beauty of any decor . . . finishes of sturdy brass, bronze, chromium or aluminum.

utility -

eleven locking functions, keyhole in knob.

security -

five- or six-pin cylinder lock, equipped with a shear-pin safety device in knob.

service --

maintenance zero . . . sealed, all-brass and steel mechanism for generations of service . . . 50% smaller lock case for quick mortise and assembly.

the LOCK of TODAY



THE ABRAHAM LINCOLN HIGH SCHOOL

... the outstanding new school of the year, Philadelphia, Penna. Architects: Simon & Boulware, Philadelphia Locks by Sargent

FRANCIS DELAFIELD HOSPITAL

...a cancer hospital and research center of 307 beds, construction cost \$6,500,000.00, designed and constructed under the supervision of the Department of Public Works, City of New York, Frederick H. Zurmuhlen, Commissioner, to be operated by the Department of Hospitals, City of New York, Dr. Marcus D. Kogel, Commissioner.

Locks by Sargent

Sargent Integralocks are the perfect complement to modern construction—chosen by ever increasing numbers of architects and industrial engineers and owners.

Sargent and Company, in designing the now famous Integralock, successfully combined all the advantages of the conventional mortise lock together with those of the heavy duty deluxe unit type lock. The result is the newest and most useful lock available for all types of construction.

Attractive modern exterior design—key in the knob action—precision parts permanently sealed in a tamperproof case, the Integralock performs all functions required in any type of building.

The key to Sargent Integralock's popularity is good design—ease of installation—maintenance zero.



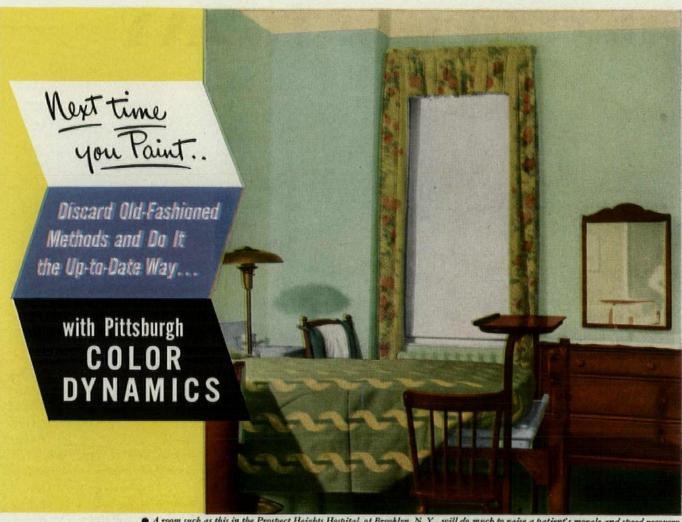
Your nearest Sargent distributor can supply you with data on the Sargent Integralock and Sargent 4500 Line, Write us for his name.

Sargent and Company

NEW YORK NEW HAVEN, CONN., U. S. A.

CHICAGO

William 'Bill' Patrick, special sales representative • 383 Talbot St., London, Ontario, Canada



A room such as this in the Prospect Heights Hospital, of Brooklyn, N. Y., will do much to raise a patient's morale and speed recovery.

New, scientific painting system adds to the comfort and well-being of your patients and efficiency of your staff

MORE and more executives who operate hospitals and sanatoriums are becoming aware of the physical and psychological benefits to patients and staff as the result of the proper use of color.

- That accounts for the tremendous interest in Pittsburgh COLOR DYNAMICS for the hospital field.
- This new system of painting is based upon the energy in color and its influence upon human beings. Tests have proved that color can be used to stimulate or depress, to help people to relax, feel more cheerful.
- In many institutions where COLOR DYNAMICS has been applied, patients have been aided in speedier recovery, and medical and nursing staffs have done their work more efficiently and pleasantly.
- By the use of COLOR DYNAMICS, patients' rooms and wards have been given color arrangements that assist convalescence. Similar purposeful use of color in operating rooms relieves eye-fatigue and tension in surgeons at their delicate tasks. Graduated steps of receding tones lessen the feeling of claustrophobia in labor rooms. Proper colors at nurses' stations promote alertness and efficiency.
- With COLOR DYNAMICS you can also make offices or living quarters seem more spacious. Rooms can be made to appear longer or wider, ceilings higher or lower, halls wider and brighter.
- Why not use this modern painting method next time you paint and obtain these benefits for your institution?

We'll make a COLOR DYNAMICS engineering study—FREE!

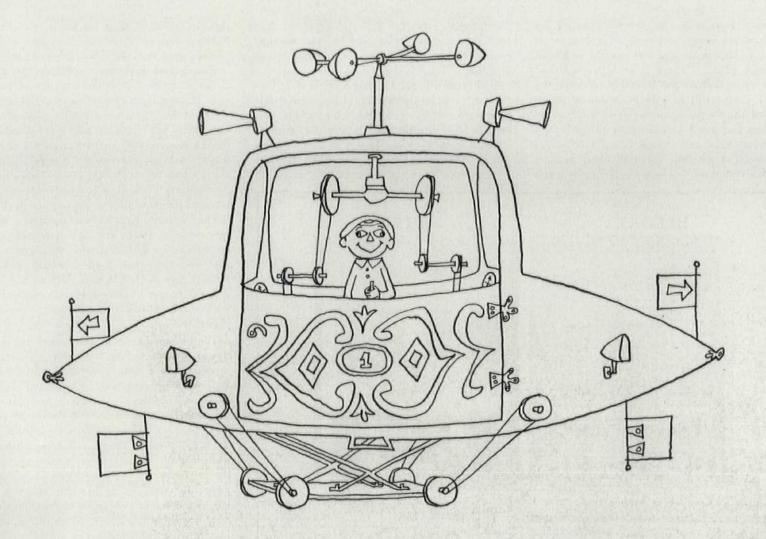
 For a complete explanation of COLOR DYNAMICS and how to use it, send for our FREE, profusely illustrated booklet which contains numerous examples of its use.

Better still, we'll gladly make a scientific color engineering study of your hospital, without cost or obligation to you. We have trained color experts at each of our 75 ware-houses. Call your nearest Pittsburgh Plate Glass Company branch and we'll gladly send one of these representatives to see you at your convenience. Or mail this coupon.

SEND FOR A COPY OF THIS BOOK!







Will it run?

Of course. The inventors are unanimous. Which way? W-e-l-l. That they can't agree on.

Just the same, this invention has its uses. For instance, it's a perfect example of the dangers of divided responsibility.

It's the sort of thing you avoid when you specify Carrier all the way for air conditioning, refrigeration or industrial heating. Only when the installation is completely Carrier can you be completely sure.

That's our advice. Take it and nobody will ever say about one of your projects..."Will it run?"

The best recipe for years of satisfaction is Carrier. Carrier founded air conditioning. Every significant advance in air conditioning from its birth has come from Carrier. These are a few of the many Carrier

products all of which will fit your needs best: Conduit and Duct-type Weathermaster Systems for the multi-room building; Evaporative Condensers; Central Air Conditioners; Dehumidifiers; Self-contained Air Conditioners; Reciprocating, Centrifugal and Absorption Refrigeration Machines; Cold Diffusers and Heat Diffusers. Carrier Corporation, Syracuse, New York.



AIR CONDITIONING . REFRIGERATION . INDUSTRIAL HEATING

in square footage cost to pay for some of the recommended storage cabinets." The authors do not try to impose an identical straight jacket on all house plans: "There is such a variety of house types, that no one assembly, whatever its size or shape, will fit into every house plan." Each of the 90 plans presented in the book is analyzed and rated according to adequate and convenient work and storage space (see scores under each of the floor plans, p. 148). It must be noted that these scores are only for comparative purposes-the full value of a kitchen must take into account other factors-for instance, counter heights-which are not included in this analysis.

With regard to cabinet space, the book follows the accepted breakdown of kitchen space into four main centers-mix, sink, range and serveeach of which should have its own storage units. Preferably they should be set so that progress can be made from left to right. If the work triangle is kept free from interruption by outside or

through traffic, so much the better. Good natura lighting and storage space are even more im portant than this last point, however.

Having laid down these premises, the authors go on to make a close examination of the four most popular types of kitchen arrangement, (The "straight-line" plan, where all equipment is se out along one wall, is not recommended-although in some very small apartments or houses it may be found necessary. "If it fulfills storage and counter requirements, it is too large to work in efficiently; and if it is small enough . . . i becomes deficient in storage and counters.")

The corridor plan places its equipment against two opposite walls. The sink is usually against the outside wall with a window above it. This plan has one serious fault-all traffic must pass through the work triangle. Minimum width is 8 ft.-2 ft. for each row of cabinets with 4 ft. work space between them (room for two people

The L-shaped kitchen, which bends the straight line around one corner, is in many ways the most satisfactory and most easily adapted of the four. It allows work centers to be combined easily and in normal sequence. Its use of two outer walls permits a large window (this should be at least 15-25 per cent of floor area). Care must be taken in proportioning the two sides of the "L" since in large arrangements the distance between the refrigerator and range tends to become too great; in small "L"s, unusable space is often left in the center, too small for auxiliary equipment (washing machine or dishwasher), and unintegrated with kitchen needs.

The U-shape (which usually has the sink at the bottom, and refrigerator and range on opposing wings) is another very workable arrangement. It ensures short distances between appliances, normal work sequence and, again, allows a large continuous window. Moreover, the work area is kept entirely free of through traffic. Its necessary requisite of three unbroken walls, is not always possible to come by, however,

The final plan-the broken U-has one of its wings cut by a door. Special planning is needed here to prevent interference of the door with the functions of the kitchen center it cuts off. This isolated center must be equipped with its own storage and work space. Such a plan loses the work continuity of the "L" and "U" plans as well as the multiple use of counters which continuity permits.

In addition to the meticulous study of kitchen types and arrangements provided by this bookeach worked out for "Liberal," "Medium" and "Limited" spacing-it contains an invaluable supplementary index.

There is no doubt that this volume fully justifies its modest introductory claim "to be of interest to architects, contractors, builders, home economists and others who design kitchens utilizing factory-built cabinets."-S.K.

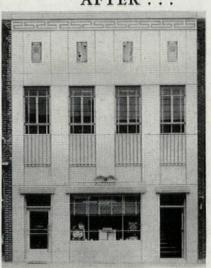
(Continued on page 160)

BEFORE . . .



Photograph of building before being remodeled for the Workmen's Federal Sav-ings & Loan Association, Mount Airy, N. C.

AFTER . . .



Same building after being faced with MOUNT AIRY GRANITE cut by us.

AIRY GRANITE MOUNT

Lifts a Store Face . . .

Economically - with an accent on dignity and permanence -Mount Airy Granite lifts a store face and converts it into a beautiful, business-like establishment.

Mount Airy is a biotite granite of medium grain . . . very light grey, almost white, in color, when axed, and medium grey when polished. Our deposits of granite have been carefully planned and preserved for the past 60 years to assure additional supplies of matching stone for future construction.

For new construction or for renovation, you'll find no better building material than Mount Airy Granite . . . for dignity, durability and permanence.

Recent trends in store fronts are toward the use of polished granite. Polishing granite brings out the rich colors and gives it a glossy finish that is easy to clean.

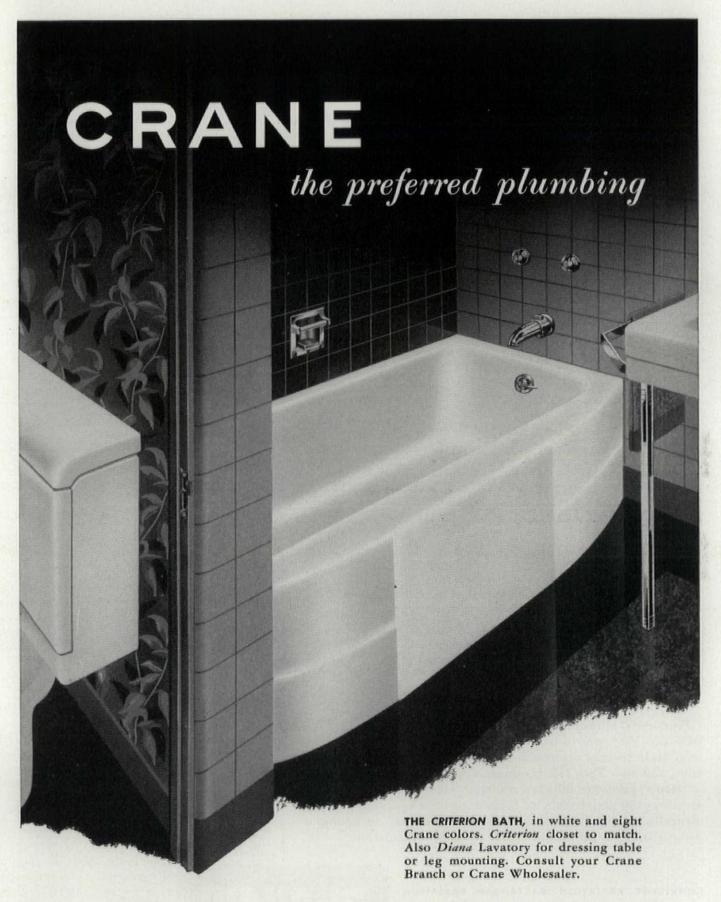
Mount Airy Polished Granite is very attractive with aluminum

trim or in combination with other colors of polished granite.

Our Cutting Plants are prepared to supply many colors and textures of polished granite, and detailed information along with samples will gladly be furnished on request.

NORTH CAROLINA GRANITE CORPORATION

MOUNT AIRY, NORTH CAROLINA



CRANE

CRANE CO., GENERAL OFFICES: 836 S. MICHIGAN AVE., CHICAGO 5

PLUMBING AND HEATING . VALVES . FITTINGS . PIPE Startling!!...
Revolutionary!



Living room in Fresh Meadows Housing Project, showing "Metro" convector. "Metro" piping is con-cealed behind draperies.

Single-riser provides an vides an uninter-rupted path for flow of steam from top to bottom of building. A coninuous pipe passes down through overlying rooms... is offset in each room into a convector baseboard.

the single-riser heating system!

Eliminates traps and valves in occupied quarters. Only trap is at bottom of riser in basement.

- Eliminates all radiator branches.
- Eliminates furring of walls.
- · Permits pre-cutting risers, all one size, in shop.
- Benefits contractors, owners and tenants.

Economical to install, operate and maintain . . . "Metro" piping with Vari-Vac* control is the proved heating system selected for large-scale housing projects financed by The Metropolitan, Equitable, and New York Life Insurance Companies.

"Metro" keeps fuel bills at a minimum. Heat supply and demand are always in perfect balance because steam temperature is automatically regulated according to outside weather. In addition, damper controls permit individual room heat regulation.

Dunham Vari-Vac Heating . . . the system that makes "Metro" possible . . . cuts fuel costs up to 40%-A Dunham Vari-Vac Differential Heating System is adaptable to any size structure . . . old construction as well as new. A Dunham Sales Engineer can quickly tell which of seven different Vari-Vac systems you'll want to specify.

SEND FOR FREE BULLETIN

Write today for your free copy ofBulletin643, giving complete information about economical "Metro" piping. C. A. Dunham Co., 400 W. Madison St., Chicago 6, Ill. In Canada: C. A. Dunham Co. Ltd., Toronto. In England: C. A. Dunham Co., Ltd., London.



*Variable Vacuum

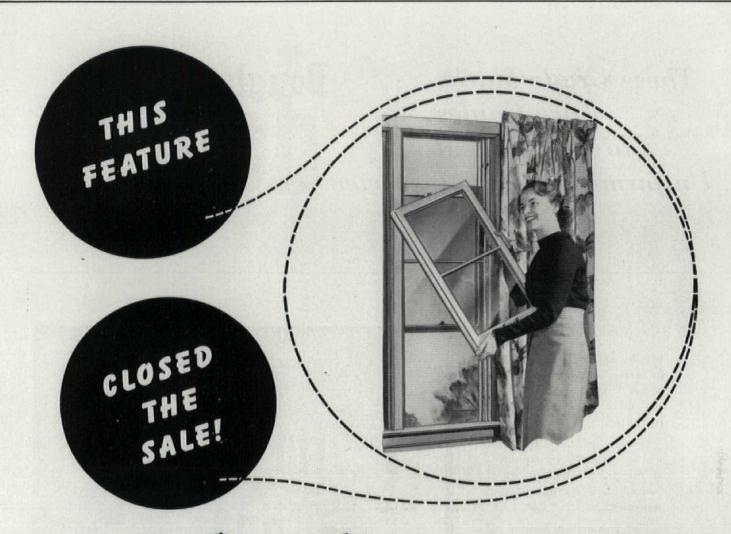
CONVECTOR RADIATION, BASEBOARD RADIATION

UNIT HEATERS



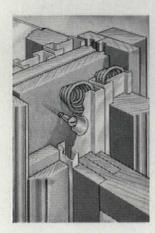
TRAPS, VALVES, PUMPS

HEATING MEANS BETTER HEATING



R·O·W Removable Wood Windows

The customer watching REMOVABLE demonstration feature of R . O . W Windows has made it the largest selling wood window in the world. Women-the real force in home buying-decide to BUY when they see an R . O . W wood sash REMOVED. "So much easier for washing both sides indoors-and painting, too", they say.



The exclusive spring cushion construction (cutaway view at left) not only makes the removable feature possible, it automatically adjusts to suit the weatherman. Gives in warm damp weatherexpands in cold dry weather. Wood sash travel in metal sash guides for smooth operation.

R • O • W WINDOWS Are Now Featured Exclusively in the Good American Home Pro-

Tie-in with this program when it comes to your town.



R · O · W is waiting with tie-in merchandising pieces that sell the wonderful R . O . W removable feature that SELLS HOMES! For complete information-including sizes and prices from your nearby distributor-fill out and mail the coupon today. No obligation, of course.

R.O.W SALES COMPANY 1323 ACADEMY - FERNDALE 20, MICHIGAN	ROV
PLEASE Send more information on R*O*W—the window with sales appeal.	*********
Name	I am Architect
Company	Builder
Address	Dealer Corporter
CityZone	Carpenter- Contractor
State	Series V

These Grade Marks are Guides to Quality and Uniformity of FDI Inspected UOIS

Douglas Fir

Every Douglas fir door that carries an FDI grade mark comes from a mill inspected regularly by the Fir Door Institute.

Doors that carry the FDI seal meet the official standards of the U.S. Department of Commerce as to quality and manufacture.

The Inspection Service of the Fir Door Institute is completely independent of mill supervision. This means it is especially valuable to manufacturer, distributor, retailer, architect and builder.

Doors stamped with FDI grade marks are your assurance an independent inspection service has found them to be up to grade, and, in many instances, even better!

Insist on doors, then, which carry this FDI "Quality Guide!"



Fir Door Institute

Tacoma 2, Washington

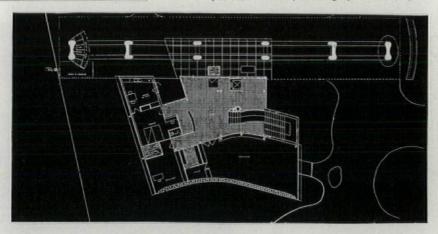




Mills subject to regular Fir Door Institute inspection are always glad to provide Notarized Certificates to buyers, upon request, showing that doors shipped have been found to be up to U. S. Department of Commerce Standards for the grade purchased.

Remember—More than 6 out of every 10 doors in today's homes are Douglas fir doors!







...the Printing Calculator way

You're bucking tough competition in every branch of the building industry—a condition that makes wasteful figuring methods a bigger liability than ever!

Why not switch to the top-economy Printing Calculator-the all-purpose, automatic figuring

machine that does all your computing jobs? For estimating, payroll work, cost checking, tax figuring . . . you can't beat the plus values built into this remarkable calculator: high speed addition and subtraction, automatic division and direct multiplication—with proof printed on the tape.

Send today for valuable FREE idea-booklet packed with helpful methods and suggestions for builders and contractors. Use the coupon.





HEAVENLY MANSIONS, By John Summerson. The Cresset Press Ltd., 11 Fitzroy Square, London W1, England. 253 pp. 434 x 81/2. 21 s. Illus.

"The creation of something new in the arts invariably means the turning upside down of some uneasy equilibrium." So says John Summerson, English architectural critic, in his recent book of essays, Heavenly Mansions. He proceeds to prove his statement not only by his analysis of various innovations in the past but by an envigorating treatment of contemporary problems. He turns upside down, like so many penny banks, a rowful of architectural truisms, and shakes out of them generous handfuls of new comprehension. Sometimes, it must be admitted, his coins have to be sorted out from a pile of historical odds-and-ends; but at least four of the essays have direct negotiable value for any one interested in the present and future of good design.

His principle of "revolution" finds application all along the line. Le Corbusier, is to him the most dynamic of modern architects because he has overturned most decisively the uneasy architectural equilibrium which lingered on from the 19th century. The dramatic appeal of his buildings comes from the fact that he has conceived his designs on a plane "where the unexpected always, unfailingly happens." They display—"a glorious, exciting contrariness which is never affectation because it invariably is a solution of a hard and fundamental problem of use." This last fact, too, always distinguishes Le Corbusier from his meaningless imitators.

Summerson likens this implicit quality to 'wit' in writing—"we observe, naively enough," he says, "that 'the house stands in the garden,' to which Le Corbusier replies 'no, the garden stands in the house,' proving his assertion by an executed design in which this is, in fact, the case. We suggest that 'a building is, in principle, four walls with windows for light and air' and he replies 'on the contrary, a building may just as well be four windows, with walls for privacy and shade'."

Summerson does not believe that the intellectual lever which has enabled the great French architect to upset century-old standards is his (Continued on page 166)



Unistrut steel channel and fittings, roller pipe supports and concrete inserts at work in a tunnel installation at G. D. Searle & Co., Skokie, Illinois, manufacturers of ethical pharmaceuticals.

• Unistrut consists of patented metal framing, spring nuts, standard parts and fittings, which in combination provide the world's most flexible method of support or suspension.

With completely adjustable and reusable Unistrut, normally difficult and complex piping runs may be installed with extreme accuracy, quickly and easily with just a hacksaw and a wrench. No drilling—no welding—no special tools or equipment!

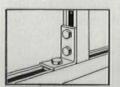
Piping runs can be installed to exactly the right pitch or slope. Adjustments and changes are easily made by the mere loosening of a nut. Additional framing may be added at any time when more piping runs are needed.

Unistrut is trim framework, providing great strength without bulk. It's easy to work with, lasts indefinitely, and the finished structure assures neat

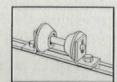
and orderly appearance.

Unistrut cuts costs too. You save time in your engineering department and you eliminate the need for trained erection crews—anyone can build with Unistrut.

A trial of Unistrut on your next piping job will show you how much quicker, better and more economically the work can be done.



Close-up of patented Unistrut channel mem-bers, spring nuts and fittings of a type used in the Searle installation.



Unistrut single axle 2-roller pipe supports as seen in the accompany-ing photographs. Types available to support from 1" to 36" O.D. pipe.



This Unistrut concrete insert is the type used on the Searle job. 1600 lbs. per foot load capacity. Other sizes and styles available.

WRITE TODAY FOR FREE SAMPLE OF UNISTRUT AND THE FOLLOWING CATALOGS:

Prompt delivery from Warehouse Stocks in Principal Cities. Consult your Classified Directory.



U. S. Patent Numbers 2327587 2329815 2345650 2363382 2380379 2405631

Other patents pending.

UNISTRUT PRODUCTS COMPANY 1013 W. Washington Blvd. . Chicago 7, Illinois

CATALOG 500-

CATALOG 600-24 pages on how to build racks of all kinds—pallet, bar stock, pipe, tube, conduit, automotive parts, hardware, furniture, floor covering, stock bin racks, and many others.

24 pages on how to build frames, hangers and supports for electrical, plumbing, heating and air condition-

ing equipment-right on the job.

UNISTRUT PRODUCTS COMPANY

Dept. F6, 1013 W. Washington Blvd. Chicago 7, Illinois

Please send sample of Unistrut and catalogs checked below without obligation.

Catalog 500

Catalog 600

Name_

Company_ Address_

> State Zone_

Air Conditioning in Textile Mills*...

by P. L. Davidson, Philadelphia, Pa.
and John deB. Shepard, Greenville, S. C.
Consulting Engineers





Philip L. Davidson

Ison John deB. Shepard

Question: Is a Central Station System more desirable than a Unit System?

Answer: "Both have obvious advantages. In a central station versus units, the cost of the base mechanical system is approximately equal. The former's cost exceeds that of the unit because it requires enclosure. This added cost, however, is offset by inherent easier maintenance and improved operating efficiency. Units, generally, should be limited to a capacity of 12,000 cfm. Central stations are often not practical beyond one floor of multistory mills, or to exceed 150,000 cfm."

Question: Does refrigeration have a place in textile mills?

Answer: "Definitely. Recent refrigeration installations give quick opportunity to spot effects of constant temperature in improved machine operation and handling of fibres. Current experiences with central systems reveal: (1) In a weave room operating on rayon fabrics with a modern central station humidifying system, the loom stops ranged from 2.3 to 5.4 per producing loom hour. The loom efficiencies averaged 92.6%, the seconds

ranged between 15 and 16%. When refrigeration was added, the loom stops over a period of two months dropped to a range of 1.2 to 2.9. The efficiencies rose to 96%; the seconds dropped to a range between 4 and 7%.

- (2) "A cotton spinning mill, after the installation of refrigeration, increased its spindle speeds 5% and its work load 14% with no increase in ends down.
- (3) "A weave room running on combed broadcloth showed, after installation of refrigeration, an increase in production of $4\frac{1}{2}$ to 5%.
- (4) "A New England mill reported a 25% increase in production in a spinning room after the installation of a central station air conditioning system with refrigeration. This was attributed primarily to a decrease in absenteeism and only secondarily to a decrease in ends down.

"Records such as these highlight the results obtained with central station equipment where refrigeration is employed to fix temperatures constantly within a range of maximum efficiency and reasonable employee comfort. Advantages are frequently realized at an investment no greater than that required with straight or 100 per cent air systems.

"This experience, proven in the textile field, should be significant in setting the pattern for all industrial air conditioning."

YORK SALES POLICY

York believes in channeling contract work through Architects, Engineers and Contractors. You are therefore assured of unequaled support toward providing the finest air conditioning systems for your clients. York Corporation, York, Penna.

York's complete line of refrigerating and air conditioning products is the result of 65 years of resultful research and encompass:



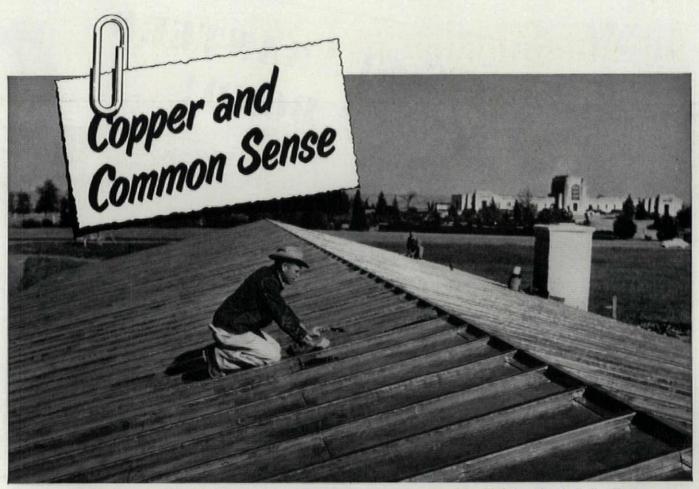
The big advances come from

YORK

Headquarters for - Refrigeration and Air Conditioning

- 1. a complete line of equipment
- 2. competitive prices
- 3. accurate, dependable product ratings
- 4. technical assistance based on "case histories"
- 5. cooperation with architects, engineers and contractors
- 6. practical help from York-trained engineers
- 7. a national organization
- 8. continuous product research and development
- 9. certified maintenance

*This advertisement condensed from an article authored by these consulting engineers, and published in Refrigerating Engineering. February, 1950



For low cost per year of service, you can't beat a copper roof like this one on the Northway Christian Church, Dallas, Texas. Architect: Tatum & Quade; General Contractor: Miller & Norton; Sheet Metal Contractor: Mustang Sheet Metal & Mfg. Co.; Revere Distributor: Moncrief-Lenoir Mfg. Co.—All of Dallas, Texas.

Dollar for Dollar, There Is No Substitute for a

Copper Roof!

• Whenever you want lasting sheet metal construction, there is no substitute for copper. Because copper—beyond any other material commonly used for roofing, gutters and flashing—has proved its ability to give longer service per dollar of cost when properly designed and installed.

These statements are backed by facts and figures developed by intensive research and by case histories of well-known buildings. No other sheet metal construction material can support so strong a claim.

To make certain of correct design and take advantage of proved installation techniques, it will pay you to use the new design and installation data developed by the Revere Research Laboratories. You'll find these data in Revere's book, "Copper and Common Sense," an authoritative manual of sheet copper construction that has been widely distributed to architects and sheet metal contractors. There is probably a copy in your files. Be sure to refer to

it as your guide to finer and more durable sheet copper construction.

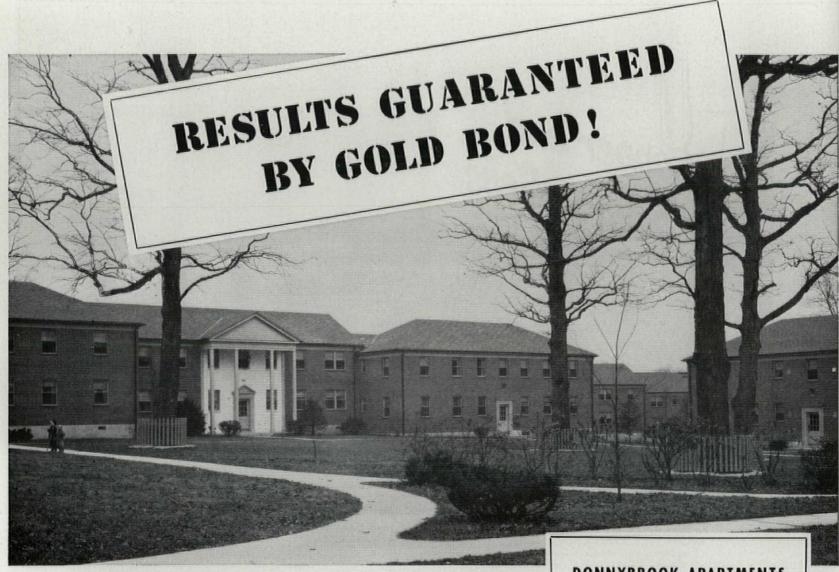
Revere sheet and roll copper and other Revere quality materials are available from leading distributors throughout the United States. A Revere Technical Adviser will always be glad to consult with you without obligation.

REVERE

COPPER AND BRASS INCORPORATED

Founded by Paul Revere in 1801 230 Park Avenue, New York 17, New York

Mills: Baltimore, Md.; Chicago, Ill.; Detroit, Mich.; Los Angeles and Riverside, Calif.; New Bedford, Mass.; Rome, N. Y.—Sales Offices in Principal Cities. Distributors Everywhere.



ARCHITECT Lawrence A. Menefee and Builder William F. Chew have a right to be proud of this new Donnybrook apartment development. 300 charming units in one of Baltimore's colorful suburbs, it's a splendid example of tasteful design and careful planning. It's another feather in Gold Bond's cap, because all the Gold Bond products listed at right were used in building Donnybrook.

Day by day, the list of "Gold Bond jobs" continues to grow. More builders and architects are finding out that using Gold Bond products exclusively gives them two distinct advantages: First, a better finished job with products that are made to work together. Second, responsibility for performance of materials centered on one reliable manufacturer—National Gypsum Company. There are now more than 150 better building products made by Gold Bond. Specify and use them exclusively and satisfy everybody concerned!

Gold Bond building products are fully described in Sweet's and are available through your local Gold Bond Lumber and Building Supply Dealer. See him today!

NATIONAL GYPSUM COMPANY BUFFALO 2, NEW YORK

DONNYBROOK APARTMENTS

Architect

Lawrence A. Menefee . . , Baltimore

Builder

William F. Chew Baltimore

Lath & Plaster Contr.

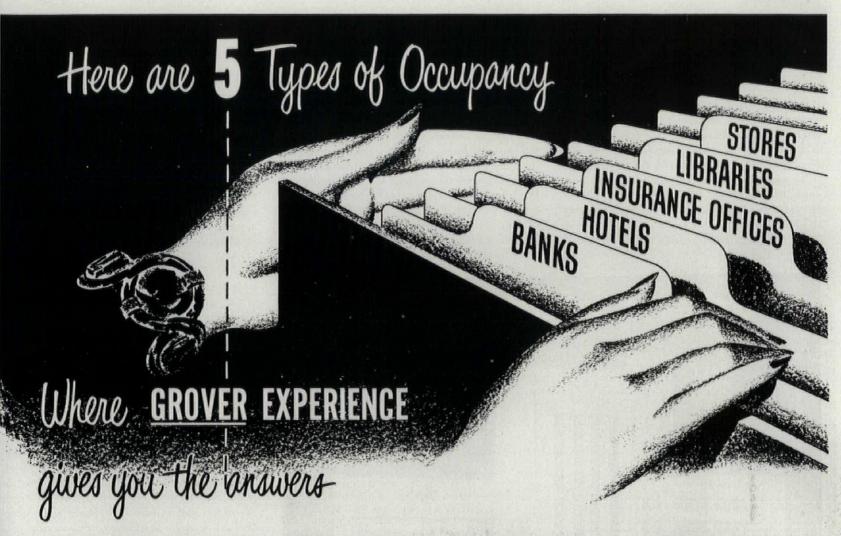
Arthur E. Whedbee & Sons, Baltimore

GOLD BOND PRODUCTS USED

ROCK WOOL INSULATION
GYPSUM SHEATHING
GYPSUM LATH
METAL LATH • PLASTER

You'll build or remodel better with Gold Bond

Fireproof Wallboards, Decorative Insulation Boards, Lath, Plaster, Lime, Sheathing, Wall Paint, Rock Wool Insulation, Metal Lath and Sound Control Products



on interdepartmental communication and transmission problems

FOR 35 YEARS architects have been making use of GROVER Pneumatic Tube equipment in meeting the need for fast message transmission in many types of occupancy. On our part, we have striven to perfect our engineering approach to these problems so that we could give the architect a real service at the drafting room stage. We are first of all Pneumatic Tube System engineers, and our manufacture of component units has been organized on the basis of complete flexibility to meet modern trends in design and layout—and modern needs in the stream-lining of business operation.

WEHAVERECENTLY made some particularly significant contributions in the fields of banking, hotel operation, insurance, library work, and retail store modernization. Earlier concepts and limitations of Pneumatic Tube application for these types of occupancy have gone by the board. Today the GROVER Transitube System does a fast, private, dependable job in the

transmission of small packages and sizable sheafs of file work in the flat. New standards in the efficient central control of retail cash and charge transactions have been set by GROVER equipment. The complications of library reference service and even the transmission of average-size books find a new and better answer through a Transitube System.

FUNCTIONAL REQUIREMENTS are best taken care of in the early stages of design. If Pneumatic Tubes are in the picture, early provision, as with heating, plumbing and wiring, saves time and facilitates progress at the construction period.

GROVER engineering counsel is at the service of your staff. Data concerning almost any type of occupancy is available and we will gladly cooperate in the solution of special problems you may encounter. GROVER equipment literature is free on request.



GROVER can be of real assistance to you at the drawing board stage.



GROVER equipment is quiet, speedy, private and errorless.

Consult the yellow pages of your local telephone directory for address of Grover Representative nearest you. Or write The Grover Company, 25527 W. Eight Mile Road, Detroit 19, Mich.



THE GROVER COMPANY . Detroit 19, Michigan

Offices in Principal Cities

abstract or theoretical originality. The main tenets in Le Corbusier's credo, "the beauty of the machine, the importance of geometrical control in the creation of design, the stupidity of academic tradition, the lessons of the past in precision and logic"-were expounded in just those words by the French critic, Viollet-le-Duc, over 80 years ago. Le Corbusier's uniqueness is rather an ability to infuse into living architecture "the fragments lying around outside the rather unreal category of which architecture is the traditional label. He has found architecture in the worlds of engineering, of shipbuilding, of industrial construction, of aircraft design." What has enabled him to seize these scattered fragments and fuse them together so forcefully "is his personal vision -the vision of the modern school of painting." We have heard much of the "influence" of modern art in connection with the European school of architecture, but very often the connection has seemed far-fetched, a suspiciously "arty" one. Here Summerson makes a revealing distinction:

"The question of the influence of modern painting on modern architecture is not so important as the historical truth that Le Corbusier, the architect has shared the same vision as some of the cubis and abstract painters. Just as in a painting by Picasso, Braque or Leger the appearance of thing is torn to pieces, broken into bits and reconstituted in a ridiculous jigsaw which has nevertheless, a perfect logic of its own, so a building by Le Corbusier is a ruthless dismemberment of the building programme . . . (He has) flouted the appearance of stability; allowed huge windows to approach within a few inches of the corner of a building; even used that unspeakable product of factory-design, the 'northlight' with its cruel saw-tooth silhouette."

Although Summerson believes that "only in our own day has the art of painting opened up a world of form which has subsequently been explored by architects to their own great advantage," an earlier essay on Gothic architecture shows that such interchanges are an architectural commonplace, if not an actual necessity. The revolution which Viollet-le-Duc effected in overturning classis truisms has by now reached its ultimate conclusion. Rationalism-functionalism. is the current word for it-must now face up to the super- and sub-rational requirements uncovered by modern psychology. Summerson notes the unhealthy effect of pure functionalism on modern architects-"a widespread and inhibiting fear of yielding too freely to the time-honored task of making buildings which are eloquent and dramatic, buildings which are heightened expressions of their functions and not merely crisp statements of it." Since Viollet-le-Duc was inspired to his functional theory by study of the Gothic architecture, his formula has somehow failed to include their ultimate satisfaction. Their pointed arches seemed to him designed only to permit higher spans, thinner walls and a multitude of finer structural adaptations. Although admitting this Gothic ingenuity, Summerson voices a doubt that many observers have held all along: "We are told," he says, "that the pointed arch rendered possible the high brittle structures of the 13th century. But this is not strictly true; structures just as high and just as brittle could have been constructed on a round-arched system . . . and it cannot be seriously maintained that in these great ceremonial buildings the ancient superb discipline of the round arch was disrupted merely for the sake of a limited degree of technical convenience . . . The pointed arch was, of course, structurally convenient, but this matter of convenience has been over-stressed. The pointed arch . . . was seized up (from the Arabs) not because it was materially essential, but because the pointed arch struck that note of fantasy which was what the mind of the age desired." In a brilliant phrase he summed up the complex of their achievements: "The Gothic simultaneously created and solved its problems."

Modern architecture, as he sees it, has the (Continued on page 170)



ONLY WOSCO HAS

1. ROUGH-TEXTURED SURFACE

Forms tight bond with mortar.

THESE FEATURES:

2. CRIMPED GROOVES -Facilitate drainage; allow for expansion and contraction.

3. CUT TO ORDER -Delivered to the job in required sizes. Eliminates cutting cost and waste.

Wasco is the logical flashing choice for today's efficient buildings. Leading architects know that when they specify Wasco COPPER-FABRIC FLASHING, permanent protection against water and moisture will be built into the walls, and there will be no installation problems.

Wasco, with its core of electro-sheet copper covered on both sides with asphalt-impregnated fabric, is really two materials in one. It provides the permanence of copper as well as the flexibility and bonding quality of fabric. Designed to replace unwieldy copper flashings, Wasco is easier to install, adapts more readily to all conditions, and saves on costly labor.

IT PAYS TO SPECIFY WASCO

THERE'S A QUALITY WASCO FLASHING FOR EVERY TYPE OF BUILDING AND TO MEET EVERY CONDITION.

WRITE FOR FILE FOLDER SEE SWEET'S 8d7

Wasco Flashing Company . Cambridge mass.

CEMESTO* PROVES AMAZING INSULATION VALUE IN STARTLING "TRIAL BY HEAT"

Dramatic tests demonstrate the remarkable insulating efficiency of the World's Most Versatile Building Material!

In recent tests made by an independent research laboratory, panels of Cemesto were put through a rigorous "trial by heat." Each panel was first set up as an enclosing wall of a special testing oven. One side of the Cemesto Panel faced the inside of the oven, and the other side faced out (see drawing). The enclosed side was then subjected to intense heat for a period of 45 minutes.

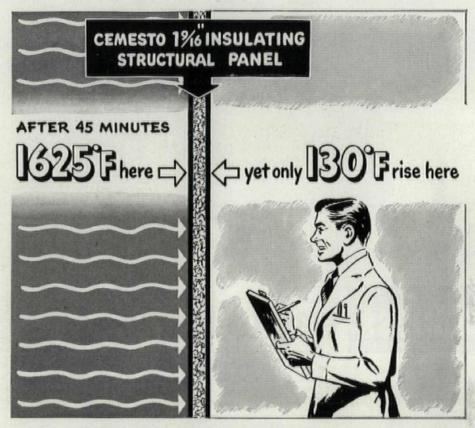
At the end of this time, when the temperature on the side exposed to heat had reached a torrid 1625°F., the other side registered a heat rise of only 130°F.! Dramatic proof, indeed, of the unusual insulation value of Cemesto Insulating Structural Panels!

Cemesto Panels offer many unique advantages

What do these tests mean to you? They mean that when you build with Cemesto Panels, you do more than save time and money on the construction of permanent roof decks, curtain walls and partitions. You also insulate effectively without materially increasing the cost! The result-buildings that are cooler and more economical to air condition in summer, warmer and thriftier to heat in winter...more pleasant, more healthful working conditions for occupants . . . greater production and fewer accidents through improved employee efficiency ... increased client satisfaction!

The secrets of Cemesto's versatility

Strong, rigid, pre-formed Cemesto Panels are made of Celotex cane fibre



insulation board to which cementasbestos facing is bonded on both sides by a moistureproof bituminous adhesive. They are lighter than most building materials, yet have remarkable structural strength. Can be worked with ordinary hand or power tools on the job, or pre-cut to specifications at the mill for faster application. Quickly and easily applied to either wood or metal framing.

Cemesto Panels resist fire, weather and wear—they are a "life-of-the-building" material! Their smooth, hard, noncombustible, stone-grey surface has good light reflection value, and provides both exterior and interior finish. Unless required for decorative purposes, Cemesto Panels never need painting or maintenance. And their cane fibre core is protected

against fungus, dry rot and termites by the exclusive patented Ferox*

Cemesto gives your ingenuity free rein

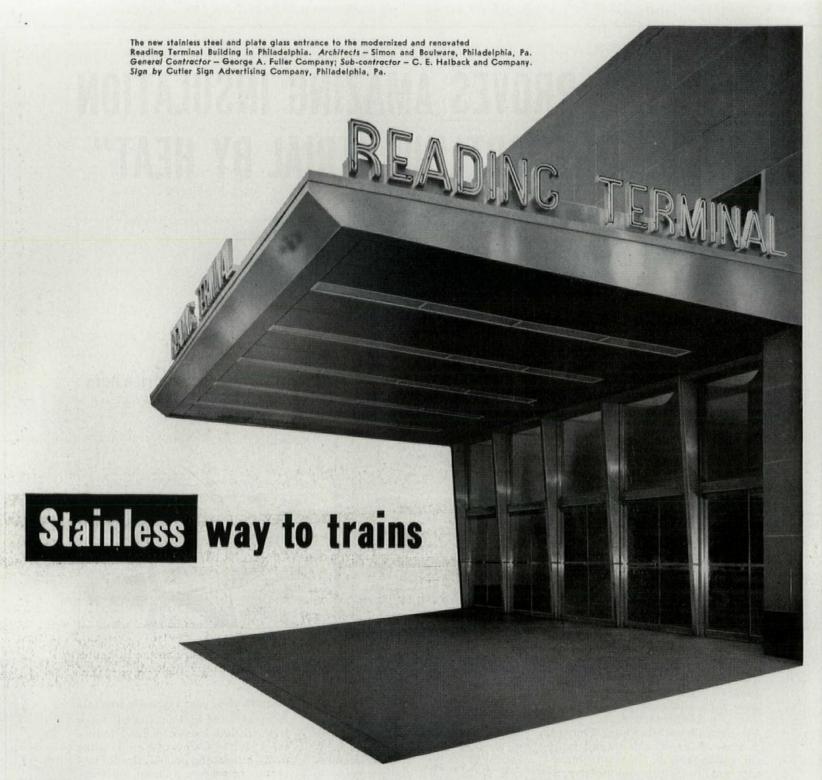
Adaptable for buildings of all types from modest homes to giant industrial plants, Cemesto Panels offer many interesting possibilities for important economies in design, construction and maintenance. Their stability and permanence have been proved by almost 20 years of varied use in all climates, all over the world. Discover how this modern marvel of building materials can help you build better, faster and at lower cost. Write today for new technical data booklet, which includes latest design and application recommendations. The Celotex Corporation, Chicago 3, Illinois.

*REG. U.S. PAT. OFF.



INCHIATING STRUCTURAL DANFIS

THE CELOTEX CORPORATION . CHICAGO 3, ILLINOIS



People going places pass through these doors. The door frames, cantilevered marquee, lettering and exterior framing are fabricated from Armco Stainless Steel . . . just a few of this versatile metal's many uses.

Why stainless steel? Architects and Reading Company engineers say "Appearance and durability were the deciding factors." The choice is especially significant because the entrance is the outward reflection of Reading's over-all modernization program.

Significant, too, is the fact that the Terminal Building's new storefronts are being built with Armco Stainless Steel. The many advantages of this strong, rustless metal make it a natural choice for any architectural use where

attractive appearance and real permanence are desired.

Armco Stainless Steel defies corrosion . . . is easily cleaned. It keeps its soft, lustrous surface through years of exposure to the elements. It costs no more than other quality materials, sometimes less. It is high in sales appeal low in cost of maintenance.

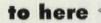
Consider Armco Stainless Steel for building entrances, cornices, decorative trim and molding, door jambs, flashing, grilles, gutters and downspouts, kick plates, marquees, signs, spandrels, standing seam roofing and storefronts. The nearby Armco Distributor supplies stainless steel in sheets, strip, plates, bars, wire and angles. See your Sweet's Catalog for specifications.

ARMCO STEEL CORPORATION

160 CURTIS STREET, MIDDLETOWN, OHIO . PLANTS AND SALES OFFICES FROM COAST TO COAST . THE ARMCO INTERNATIONAL CORPORATION, WORLD-WIDE



HOW to shorten the trip from here





with the MASONITE HARDBOARD FAMILY

From plan to finished structure, the trip is shorter—smoother when you use the Masonite* Hardboard family! These hard, smooth, grainless wood panels—available in 19 types and thicknesses—
speed construction all along the
line—reduce building costs—
assure quality and owner satisfaction. For example—

HOW to Speed Dry-Wall Construction...

Specify super-smooth panels of the new Masonite 14"
Panelwood*. These big, sturdy panels, 4' wide and 8, 10 and 12 feet long, go right over open framework. Panelwood won't crack, split, splinter or dent—takes any applied finish—gives lifetime service.



HOW to Provide

You can cut the cost of built-in features by specifying Masonite Hardboards. Above, the handy cabinet under the laundry trays has ends of "" Tempered Presdwood*. Doors are "" Tempered Presdwood on wood frames. Masonite Hardboards save construction time because they are so easily worked with ordinary carpenter tools.



HOW to Make Owners Say "Ah"

Masonite Leatherwood—
a Masonite Hardboard with
the rich texture of Spanishgrain leather—gives you wide
scope in planning beautiful
rooms at moderate cost.
Leatherwood is ½" thick, comes
in sturdy panels 4' wide and
up to 12' long—can be nailed
or fastened with adhesive
over any solid backing—and
even bent to modern contours.

CORPORATION

*Trade-marks Reg. U. S. Pat. Off. "Masonite" signifies that Masonite Corporation is the source of the product.

Useful Information—Yours for the Asking— Mail the coupon!

Masonite Corporation 111 West Washington Street Chicago 2, Illinois

Gentlemen:

For my files, please send me information and literature about Masonite Hardboards.

Name.....

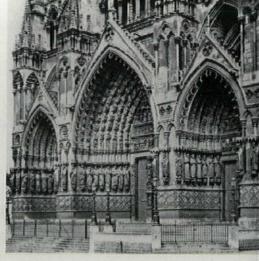
City.....State.....AF-6

There are 19 Types and Thicknesses of MASONITE HARDBOARDS for 1000 Uses

The 'aedicule', or little house forms a frequent motif in both Roman paintings (left) and Gothic decoration (center). The west front of Chartres Cathedral (far right) gives noble proof of the Gothic power to fuse significant detail and structural principle—a psychological achievement which modern architecture has still to attain.

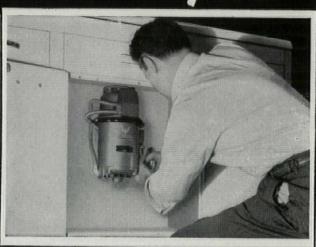






The NATIONAL Disposer





The contractor has no problems where installation of National Disposers is concerned. Nationals are designed for quick, easy installation. It's a matter of record that on one apartment house job National Disposers were installed in an average time of less than ½ hour

FULLY AUTOMATIC • SAFETY TOP CONTROL • WATER FLOW SWITCH The NATIONAL disposer is easily and quickly installed. From drawing board to sink...no problems! GOOD DESIGN IS SIMPLE DESIGN!

each! Easy installation means low cost—more profit to builder. (FHA appraisals can be increased by full value of disposer.)

YOU'LL DO BEST TO SPECIFY NATIONAL DISPOSERS

Nationals meet every requirement from the first planning stage on—every requirement of the architect, contractor, apartment and home owner. It will pay you to get complete details now. Get your "Architect's File" including National Disposer specification sheets and installation data. Address: Dept. 5, Plumbing Equipment Division, National Rubber Machinery Co., Akron 8, Ohio.

NATIONAL'S SERVICE POLICY — so simple it is unique in the disposer industry

National Disposers are built to strictest quality standards—but if service is required, it is simply replacement of the entire power unit as a package—an easy, 10-minute job requiring only a screwdriver and an end-wrench. The user is not deprived of his appliance; there is no messy repair job in the kitchen.



Made by National Rubber Machinery Company, for over 40 years designers and builders of precision processing machines.

ability to solve almost any technical problem. I must now take a further step—and comprehen the full scope of modern man's need in building and express its true stature. Gothic architectur had added to its perennial interest phychologica as well as structural and esthetic achievements

The key that unlocks the Gothic design fo Summerson is a motif that appears at every leve of Gothic building-so omnipresent as to b almost unnoticeable. It is the miniature enclosur which surrounds the figure of individual saint and personages. This motif of "the little house expands without break to include the whole nave of the cathedral; and yet it is by no mean a purely Gothic conception. The "aedicule," which is as contemporary as 'the little grahome in the west' and as deeply significant as child's desire to play house under tables and chairs was evident in late Roman architecture (see the Pompeiian painting above). These designs "show a desire to dissolve mass in col lonnades, pergolas and paper-thin walls." To Summerson, the whole range of Romanesque architecture is not an achievement in itself, bu a "step towards dissolving the solidity of the Roman." But the Gothic dared to transform thi ornament into a principle-"an adjunct was made into an essential, a parasitic growth into a main stem." The old building principle was turned upside down and a new thing in the arts-the Gothic cathedral-was created.

Building today faces much the same possibility For the first time since that great age of stone we have a material with the homogeneity o medieval masonry construction. "Reinforced con crete, developed in the last two decades of the nineteenth century does offer a new homogeneity -that is to say, it combines the compressive strength of cast-iron with the tensile stress of steel; and thus an entire building can be satisfactorily conceived in this one material." What we may most admire today is the Gothic "wil to form-the rest of (the architect's) responsibilities can now all too easily be sapped by planners, structural engineers, industrial designers and interior decorators. The one proof of a vital architecture is whether . . . or not it is adding something to the experience of living."

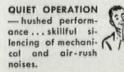
There is one puzzling omission in the bright pages of Heavenly Mansions. Not even a passing reference is given to another architect who has so variously and consistently "overturned uneasy equilibriums." Where, Mr. Summerson, have you buried Frank Llyod Wright?—S.K.

(Continued on page 174)

772 Oreat New Cabinet Unit for HEATING and COOLING



FRESH AIR VENTI-LATION—available with non-freeze steam coil and built-in mixing damper for ventilating applications.



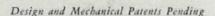


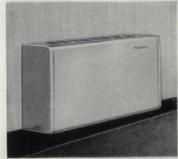


GOOD LOOKING smartly styled and finished in beige-gray enamel. Louvered base in darker color. Parker-Bonderized for lasting beauty.

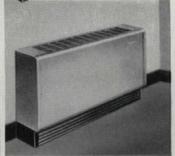
EASY ACCESSIBILITY entire front panel removable for complete accessibility to motor, blowers, coil and piping.

Type C unit with optional plenum base for floor mounting illustrated.





Type C is basic unit for wall mounting. Accessory equipment adapts it to other installations.



Attractive louvered plenum base (optional) attached on job, makes Type C a floormounted cabinet.



Optional inlet grille converts Type C to a ceiling cabinet. Duct connectors can also be furnished.



Type CR with face outlet grille and plenum base available at a slightly higher price for recessed installation.

Quick, positive distribution of heated or cooled air is yours with the new Modine Cabinet Unit. Quiet efficiency, attractive appearance and quick response to automatic controls make it ideal for stores, showrooms, schools, lobbies...all modern commercial and public buildings. Available in 5 capacities from 120 to 640 Edr.

WRITE FOR NEW BULLETIN 550 TODAY! You'll find your Modine representative listed in the classified section of your phone book. Or write direct. Modine Mfg. Co., 150 Dekoven Avenue, Racine, Wisconsin.



CABINET UNITS

U-1063





How to Make a Home

It's easy to bring nature right into the home with Ceco Picture Windows of Steel to make each room truly live. There's movement in the murals of the vibrant outdoors framed by these handsome window creations. Distant views, ever changing with the mood of the hours, bring relaxing thoughts and a sense of better living. All this is possible because there's less interruption of vision. The eye is drawn easily to the outside world of motion—barriers are minimized due to slender frames and muntins. And to have Ceco Steel Windows is to know truly sound value. They're engineered to



In construction products CECO ENGINEERING



CECO STEEL PRODUCTS CORPORATION

General Offices: 5601 West 26th Street, Chicago 50, Illinois Offices, warehouses and fabricating plants in principal cities

makes the big difference

COMMUNITIES FOR BETTER LIVING. By James Dahir. Harper & Brothers, 49 East 33rd St., New York, N. Y. 321 pp. 5½ x 8½. Illus. \$4.

Books on a subject as broad as community planning run a double danger—that of being either dogmatic or dull. In presenting this report on "citizen achievement in organization, design and development," James Dahir has managed to avoid both dangerous extremes. He has provided instead an admirable introduction to this complicated field. An impressive amount of research

has gone into his book—the bibliography alone, with 451 titles, is a valuable contribution.

Its most distinctive merit is a balanced optimism which has a hard realistic base—a "hopeful view of the opportunities for community improvement" grounded on the "proved capacity of American communities to survive on a starvation diet." Dahir admits the frightening failure of our cities with their planless, destructive movement of population. The cure he believes must be found within the people themselves; with Edward

Lendeman he believes that "the resident forces are the redemptive forces." The hope and first aim of every movement must be to strengthen these resident forces—the families and communities who seek to improve themselves in their own neighborhoods instead of moving idly elsewhere. He notes that in cities "it is the absence of roots which makes the soil so inorganic, so incapable of supporting new life," and the dangerous consequences of this—"the loneliness of the individual which is often displaced only by his inclusion in a group whose drive is hostile to something or somebody."

To the disillusioned many who ask: "Why haven't the planners got to first place?" The book counters aptly: "A better question would be 'Why don't Americans know more about what has been accomplished by planners?' The planners have got to first base. Indeed they have got to third base. But they haven't scored any runs as vet." Communities for Better Living makes available for the general public a readable summary of planning theory and action from England's Letchworth Village to Park Forest, Ill.; from the TVA project of the U.S. government to Peckham Health Center run by English social workers. Rural and suburban problems are presented as well as urban ones-not only to give an over-all view-but because like many other planners, Dahir notes that "city and country are increasingly taking on similar characteristics and will become more and more closely related to each other in thinking and behavior as well as in economic ties and physical contact."

The book looks into current programs with an encouraging but knowing eye. The impressive size of the \$25 million Better Baltimore program is not allowed to conceal the fact that almost \$20 million of the sum was allotted for traffic uses and a new airport, although the need for these items was last on the list while better neighborhoods and housing were first.

To the frequent, discouraged planning question "But where shall we begin?" the book replies immediately and practically—"If, as is common, there is little experience in whole-community cooperation, except for brief emergency periods, a good place to start would be in the fields of recreation and conservation." This suggestion, too, is documented by examples of successful community action—from an orchestra in Fort Wayne to reforestation in Vermont.—S.K.

EUROPEAN ARCHITECTURE IN THE TWEN-TIETH CENTURY, Vol. I. By Arnold Whittick. Crosby, Lockwood & Son, Ltd., 39 Thurlow St., South Kensington, London SW 7, England, 249 pp. Ilius. 30/.

"There are degrees of a living architecture. The new architecture represents the most complete degree . . . (but) if a building is an original creation because it is a fresh interpretation or adaptation of traditional styles, or if it is an eclectic blending of traditional styles, then it may

(Continued on page 178)



Residence of Kemper Nomland, A.I.A. — Julius Shulman, Photo

Capitalize on the rhythmic pattern of Structural Corrugated Glass by Mississippi to create a dramatic, translucent separation of living and dining areas. Here's beauty bathed in borrowed light, combining interesting texture with modern practicality to produce interiors high in interest. Soft, transmitted light dramatizes furnishings, provides the architect with an inspiring medium that accents his abilities, floods interiors with soft, flattering light, yet protects complete privacy. Use this versatile material to create an atmosphere of lasting freshness and beauty. And glass is simple to install and maintain, yet so rich in effect.

Mississippi Glass offers an extensive selection of obscure glass patterns, surface finishes and light transmission characteristics to fulfill the requirements of any design or specification. Available through leading jobbers of quality glass everywhere.

See Sweets' Architectural File for further details. Samples on request.



Send for free literature. Use our catalogs to plan the use of decorative glass in your installations.



MISSISSIPP Class COMPANY

NEW YORK . CHICAGO . FULLERTON, CAL.

WORLD'S LARGEST MANUFACTURER OF ROLLED FIGURED AND WIRED GLASS

New beauty for school and college installations at lower cost—with **KENTILE**



6 Reasons Why Leading Architects Specify KENTILE

LOW COST Inexpensive to buy...to install...to maintain.

BEAUTY Colorful Kentile floors can be designed in a wide variety of rich colors.

DURABILITY Colors can't wear off. They go clear through to the back of each tile. SAFETY Provides a confident footing for all. Virtually fire-resistant.

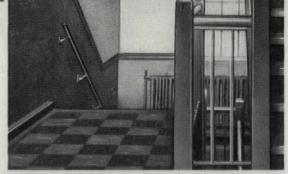
QUIET Kentile is a resilient material that cuts down noise and clatter of footsteps.

EASY TO CLEAN Mild soap and water keeps Kentile clean...occasional no-rub waxings keep it gleaming.

• For institutions, and for private homes, Kentile offers unique advantages that are quickly appreciated by your clients.

Kentile can be installed on concrete in direct contact with the ground. It can be laid over double T&G floors, or directly over plywood...and is also ideally suited for installation on radiant heated concrete slabs.

Kentile is laid tile by tile — meaning installation and labor costs are cut to a minimum. And you're sure of enthusiastic public acceptance when you specify Kentile, because of the large-scale advertising, with big color ads in leading magazines.



More and more architects are specifying Kentile for school corridor walls, as well as floors.



The Asphalt Tile of Enduring Beauty

DAVID E. KENNEDY, INC., 58 2nd Avenue, Brooklyn 15, N.Y.



"Amazing Results With Plywood Forms..."

on world's largest architectural concrete job!

Once again, forms of Douglas fir plywood provide the smooth, fin-free, easily-finished surfaces which make plywood a preferred material for such work. Close to three million square feet of these modern panels—Exterior fir plywood and plastic-faced plywood—are being used on the huge Parklabrea apartment development in Los Angeles.

Architects Leonard Schultze and Associates "consider the results amazing."

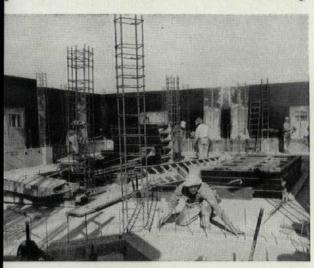
Parklabrea is another example—a big example—of plywood's ability to do a better form job, faster and with less labor. "The plywood produces smooth surfaces, ready for painting. Large size and light weight speed the work, and multiple form re-use reduces costs. There are far fewer joints to rub and grind."

New construction at Parklabrea—giant Los Angeles apartment project of the Metropolitan Life Insurance Company will add eighteen 13-story apartment units, seven 2-story block-long concrete garages and several 2-story apartment structures. Completion of the new \$40,000,000 section will provide 2,937 additional apartments, increasing the total number to 4,257 apartments capable of housing about 13,000 persons. Architects are Leonard Schultze and Associates, New York, represented in Los Angeles by Gordon B. Kaufman and J. E. Stanton. Starrett Bros. and Eken, Inc., New York, are general contractors.

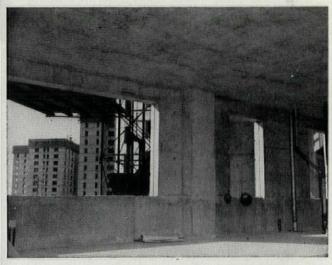
Douglas Fir Plywood

AMERICA

-Use Another Feature; Only One Set of ywood Forms Needed for Each Building!



Form reconstruction during pouring operations on each 13story structure was eliminated; one set of plywood forms gave enough re-uses to complete the job! As pouring progressed, plywood forms were moved up in sections. Nearly a million square feet of plastic-faced plywood formed exterior walls and interior ceilings. Two million square feet of Exterior-type plywood was used for interior walls, foundations, stairwells.



Plastic-faced plywood formed the smooth, blemish-free surface for this ceiling—with only a paint surface needed to finish the job. Ceiling is the underside of a 7-inch thick reinforced concrete slab floor, poured against ½-inch panels, nailed to 2"x4" joists, 24" on center, with 4"x4" wales, 4' on center.



Large, Light, Strong Real Wood Panels

For additional data on Douglas fir plywood for concrete form work, see Sweet's File, Architectural, or write (USA only) Douglas Fir Plywood Association, Tacoma 2, Washington. Of particular interest are two booklets: "Concrete Forms of Douglas Fir Plywood" and "Handling PlyForm."

USIEST BUILDING MATERIAL

For Smooth, Fin-Free Concrete Surfaces...

PLYFORM

Concrete Form Panels



Smooth, fin-free surfaces . . . ease of handling . . . strength, rigidity, tightness . . . superior nail holding qualities . . . cost-cutting re-use factors—these are primary advantages of PlyForm. Highly moisture-resistant glues used in PlyForm panels permit multiple re-use (as many as 10 to 15 are not unusual). For greatest possible panel re-use, however, specify Exterior-type Concrete Form grade of Douglas fir plywood. For special architectural concrete and the smoothest possible surfaces—as in the Parklabrea job—specify Exterior or Interior-type plywood in grades having "A" face veneer, or one of the new plastic-overlaid panels.



New Keely PlyForm calculator gives construction data for plywood forms, based on hourly rate of pour. Complete with leaflet, "Design Assumptions for New Keely Calculator." Send coupon naw!

DOUGLAS FIR PLYWOOD ASSO	CIATION
TACOMA 2 WASHINGTON	(Good in USA only

Please send me Keely Calculators, I enclose \$1.00 each to cover costs.

Name.....

Address.....

City......Zone....State.....

be a living architecture in a different sense."

The feeble and unenforced theorizing quoted above exemplifies this book's continuous lack of mental fiber. Editor as well as the author of this three-volume history must be held responsible for its unimpressive result. Frequent repetitions and contradictions as well as vagueness represent flaws on the part of the publisher's function as well as the writer's.

European Architecture in the Twentieth Century sets out in a praiseworthy course-reporting

advances on all building fronts in France, Belgium, Holland, Germany, Austria and Scandanavia, as well as Great Britain itself. Some of its photos and factual text form a helpful supplement to the incomparably more incisive writings of Giedeon and Peysner. The overall impression of its pages, however, is painfully like any one of the infinitely transitional buildings that the author delights in enumerating-the Royal Liver Building at Liverpool, for example: "stylistically a mixture of Romananesque, Byzantine and Re-

naissance, into which, however, a slightly modern character is infused in the massive facades due to a tentative and slight expression of the structural framework."

The failure of this "tentative and slight" literary record of modern architecture is disappointing since there is indeed a place on the shelf for a full-size, painstaking summary of past-century gains in building.

THE WHITE HOUSE, Home of the Presidents by Randle Bond Truett. Hastings House, 41 East 50th Street, New York 22, N. Y. 81 pp. Illus. 61/4 x 8.

One hundred and fifty years ago James Hoban, architect of the White House, ran into a problem known to architects before and since. At the last minute before construction, Congress and the President asked if he couldn't just enlarge his plans by one-fifth. Hoban agreed-at an extra cost of 77,000£. Wrote George Washington, sounding like many another client-"If that should be the case I am decidedly of the opinion that it would be best to take the plan on its original scale. But I confess that I cannot see how so great an increase of expense would arise from the small encrease (sic) of dimensions pro-

The history of one of America's best-known buildings gives a good index to U. S. architectural taste as well as a backdrop for political action. This pint-sized picture book gives a quick glance at the White House's major changes in structure and interior from James Madison's search for "clocks without nudities" to Harry Truman's functional hold-out for a balcony.

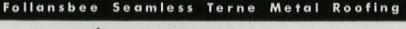
MURAL PAINTERS PORTFOLIO, National Society of Mural Painters, 1083 Fifth Avenue, New York 28, N. Y. 81/2 x 11. Illus. Unpaged. \$3.50.

Bars, banks, trains, ships, churches and night clubs-to name but a random few-still carry on the great tradition of using the wall to beguile the eye. Members of the National Society of Mural Painters here put their work on record for the convenient reference of all designers. Each painter's experience is docketed beside a black-and-white reproduction of his work, and each is set on a single page of this portfolioleft loose-leaf for easy removal. Styles range "bank" conventional to "World's Fair" abstract.

CHINESE HOUSES AND GARDENS. By Henry Inn. Edited by Shao Chang Lee. Hasting House Publisher, Inc., 41 E. 50th Street, New York 22, N. Y. 9 x 12. Illus. \$10.

Another reprint from ten years past. This pictorial essay on Chinese garden forms and buildings bespeaks an age-enriched understanding of the indoor-outdoor ideal of living. Their spirit can be as beneficial to present efforts as blind copying in the past has been harmful,

CORRECTION: The price of The History of the Development of Building Construction in Chicago by Randall, pub. Univ. of Illinois Press, is \$5 (instead of \$3 as listed in the Feb. '50 FORUM, p. 158).

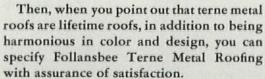






In modern housing the versatility of Follansbee Seamless Terne Metal Roofing permits harmonious design detail to conform to architectural styling. That's one of the advantages of Follansbee Terne Metal Roofing-it belongs in any period and any specialized roof construction.

Color harmony is another important feature of a Follansbee Terne Metal Roof. Your client can select any trim color and the roof can be finished in contrasting shade, or in the same shade. This permits change of color scheme, anytime-just the sort of flexibility you like to suggest to a client.



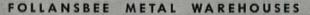
If you haven't received your file of architectural details be sure to write Terne Metal Dept. A., Follansbee Steel Corporation.



FOLLANSBEE STEEL CORPORATION GENERAL OFFICES, PITTSBURGH 30, PA.

COLD ROLLED STRIP . ELECTRICAL SHEETS . POLISHED BLUE SHEETS . SEAMLESS TERNE ROLL ROOFING

Sales Offices—New York, Philadelphia, Rochester, Cleveland, Detroit, Milwaukee. Sales Agents—Chicago, Indianapolis, St. Louis, Kansas City, Nashville, Houston, Los Angeles, San Francisco, Seattle; Toronto and Montreal, Canada. Plants—Follansbee, W. Va.



Rochester, N.Y.





Now that you can specify Fibretone with flame-resistant finish, you can do a better job of solving acoustical problems at low cost. For Fibretone meets the most modest budget, yet it combines economy with many other advantages.

The flame-resistant finish is available if desired, and is especially recommended for schools, institutions, and places of public assembly. But whether you choose this new finish or the standard finish, you put an *end* to costly noise, because Fibretone is "the ceiling with a hundred thousand *noise traps.*"

Each 12"-square unit contains hundreds of small cylindrical holes drilled in the sound-absorbing material. As sound waves strike the ceiling, they enter the "noise traps" where the sound energy is dissipated. Fibretone Panels are attractively predecorated, can be painted and repainted.

Other J-M Acoustical Ceilings include Transite* Panels, made of fireproof asbestos; and Sanacoustic*—perforated metal panels backed up with a noncombustible, sound-absorbing element. For free book on "Sound Control," or an estimate, write Johns-Manville, Box 290, New York 16, N. Y.

Reg. U. S. Pat. Off.



Johns-Manville

J-M Acoustical Materials include Sanacoustic*, Asbestos Transite*, and drilled Fibretone*

Here's a way to give your client

at little or <u>no extra cost!</u>



nest *All-Year* air conditioning

These simple economies can offset its cost—

Many of the customary features in a home no longer have functional value when All-Year Air Conditioning is included...such things as porches, fire-places, screens, etc. So in your preliminary planning you leave them out. This way you'll generally save enough to make up the cost of the Servel system. And clients feel they're making a marvelous exchange. For while the things that are omitted provide comfort for only portions of the year, Servel provides them with ideal comfort all year.





NO PORCH



NO FIREPLACE



LOWER-COST WINDOW CONSTRUCTION

Tops in new-home comforts today is All-Year Air Conditioning. Year round, the air is healthfully conditioned all through the house. Year round, the humidity is carefully controlled to eliminate stickiness in summertime and the drying-out tendencies of winter. Year round, the air is filtered clean—free of dust, dirt and pollen. Bracing in summer. Cosy in winter. The flick of a finger brings instant results. And by making the decision to include Servel All-Year Air Conditioning early in the planning stages, you can give your clients this ultimate in comfort at little or no extra cost.

Recent studies indicate that the additional expense of the *All-Year* Air Conditioner—over and above a conventional heating plant—can be offset by eliminating some of the usual features in a house. For instance, a house designed for *All-Year* Air Conditioning needs no porch, no fireplace, and no attic fan. Outside doors and windows may be kept closed; in fact, in many cases the glass may be fixed which permits the use of a simple wood frame. Therefore screens are not needed. And in most parts of the country, the total of these savings will enable you to include Servel's *All-Year* system at little or *no extra cost*.

The Servel All-Year Air Conditioner can be easily adapted to any size, type, style or shape of home your client wants. Ask your local Gas Company for all the particulars or write to Servel, Inc., 2006 Morton Avenue, Evansville, Indiana.

Sewel

All-Year AIR CONDITIONER

PRODUCT NEWS



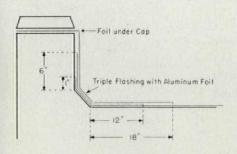
Preshaped fittings are welded to straight piping for radiant panel. Another kind of Redi-Bend is merely coupled to the pipe with a monkey wrench.



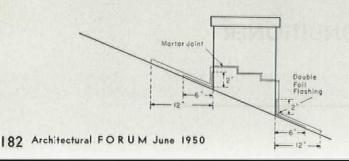


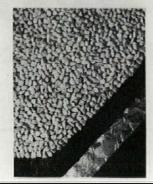
Non-fading mineral chips make a handsome top coat for this fire resistant roofing.











PIPE FITTINGS for radiant heat panels reduce installation cost.

Factory formed in 180°, 90°, and 45° arcs, Redi-Bend steel and wrought iron fittings are adaptable to many panel heating plans. Complex shapes and large jobs can be figured accurately and radiant panels are formed simply and quickly without any pipe bending on the job. Fittings are made in $\frac{1}{2}$ to 2 in. sizes in three types:

The Weld-type has been designed to meet specifications for welded joints on radiant heat installations. These Redi-Bends are made from standard weight pipe with the ends formed into integral sockets. Serving as a convenient alignment guide, the welding socket requires only one weld to join pipe and fitting.

Another fitting for welded joints, the Sleeve-Type is available with or without welding sleeves. Without, its beveled edges are butt welded to the piping with acetylene equipment; with the sleeve, two welds are necessary.

Coupled pipe joints, accepted for many years in hot water and steam heating systems, may be adapted to panel installations by means of the Coupled-Type Redi-Bend. These screw fittings are furnished with two heavy recessed tapertapped couplings. Welding is eliminated; instead, joints are coupled with a monkey wrench,

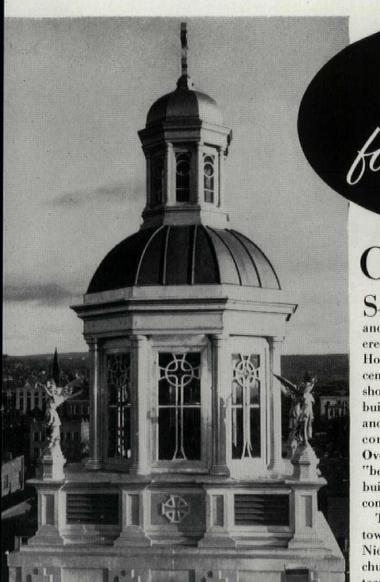
Studies of conventional and Redi-Bend techniques conducted by the manufacturer revealed a substantial saving in fabricating panels with the new fittings. The same size panel of 13 grids, 11 ft, long was formed in each test, In the usual method of bending and welding the panel, a journeyman's time was first required to gauge just where to make the bends so there would be no gaps. Fabrication of this panel, excluding pipe, totaled about \$20, Labor, welding materials and Redi-Bends for a similar panel cost \$14.40, or about 25 per cent less.

Manufacturer: The Capitol Mfg. & Supply Co., 153 W. Fulton St., Columbus, Ohio.

LIGHTWEIGHT ROOFING has aluminum foil vapor-barrier, asbestos fibers for insulation.

Passed by National Board of Fire Underwriters with an "A" rating, Aluma-Life roofing material is said to be applied as easily and more economically than roofs carrying much lower ratings. This lightweight roofing has a vapor barrier of aluminum foil between cotton gum base layers and is finished with a top coating of marble or granite chips in any selected color. Weighing from 125 to 285 lb, per square, as compared with 460 to 685 lb. for other "A" rated built-up roofs, Aluma-Life requires no heavier bracing than that used for asphalt shingles or roll roofing. Bonded directly to wood sheathing on pitches of 5 on 12 and up, the roofing will meet hurricane specifications. It is suitable for many types of residential and industrial applications; the cost, including labor, is about \$14 per square. Part of its economy is achieved by utilizing double and triple foil-

(Continued on page 186)



Beauty for Scranton

Overly installs lifetime towers and roofs

St. Mary's Greek Catholic Church and Rectory, brick structures, were erected in 1914—Architect, John J. Howley, Scranton, Pennsylvania. Recent photographs (first and third) show the improvement of original buildings by reroofing, retowering, and renewal of roof drainage systems, completed in 1950—this time by Overly. Note the contrast in the "before and after" appearance of the buildings. The towers were formerly constructed of wood.

The 32 foot high all aluminum towers were designed by Reverend Nicholas E. Patrick, pastor of the church, in consultation with Architect Howley. Overly furnished the new structural steel framing, executed all the intricate aluminum work.

and erected the towers. The towers are glazed with colored glass, and are illuminated from within at night.

Overly-Goodwin Batten Type Roofing-20 gauge aluminum with .051" battens-was shop fabricated and installed by Overly craftsmen on the church, rectory, and recreation hall. All cornices and dormers on the rectory are of 14 and 16 gauge aluminum; the ornamental rail on the rectory porch is 1/8" aluminum; towers on the church are 14 and 16 gauge aluminum; all the ornamental aluminum work is full welded at the joints. Note the smooth surfaces and clean appearance of this work. Overly. Goodwin Batten Type Roofing has patented mechanically interlocking water proof joints throughout.

OVERLY-GOODWIN Batten Type Metal Roofs are an exclusive patent of the Overly Manufacturing Company. Famous installations include the Mormon Tabernacle, Salt Lake City, Utah; Rock Island Arsenal, Rock Island, Illinois; Mellon Institute, Pittsburgh, Pennsylvania; University of Minnesota Field House, Minneapolis, Minnesota; Union Terminal at Cincinnati, Ohio; Arnold School, Pittsburgh, Pennsylvania; and Grace Church, Wilmington, Delaware. The owners of these buildings have never reported spending one cent for maintenance or repairs of their Overly roofs.

Overly roofs are permanent. They are shop fabricated of enduring metals (aluminum, copper, stainless steel, or monel). They are "tailored to the building," retain their good looks and perfect fit, have patented mechanical joints which allow for expansion and contraction, and do not leak.



SEND TODAY for more detailed information on any of the following: OVERLY Roofing, Coping, Metal Door Frames, Kalamein and Tin Clad Doors, Skylights, Ventilators, and Heavy Steel and Alloy Plate work for Bins, Breechings, Hoppers, Tanks, and Housings. Specify Overly for Architectural Sheet Metal Products of all kinds, and be assured of Quality, Performance, and



Service. Our Engineering Department will be glad to assist you with design and help solve your sheet metal problems,



OVERLY MANUFACTURING COMPANY, Dept. AF
GREENSBURG, P.A. (Phone Greensburg 154)

OVERLY MANUFACTURING COMPANY OF CALIFORNIA
Dept. AF, 2943 Gleneden St., LOS ANGELES 39, CALIF.
(Phone Olympia 2948)

Sales Representatives in All Principal Cities

THE VERSATILITY OF ALUMINUM

exterior facing...insulation and vapor-barrier... fenestration...rain-carrying equipment

A rustproof, non-staining "white metal," strong and durable without painting, would by these qualities alone command architectural use. Yet this only begins to state the properties of aluminum. An exceptionally favorable weight factor in proportion to its strength is another characteristic. A high degree of formability is an important advantage. The availability of varied surface textures, smooth and embossed, multiplies design effects. And to all these must be added a unique capacity for reflecting up to 95% of radiant heat, together with the vapor-proof advantage of even very thin aluminum foil.

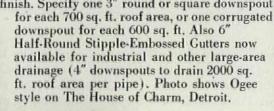
From this list of qualities stems naturally an exceptional range of functional applications. What other material can serve with equally high efficiency as roofing, siding—and insulation within a wall; windows of enduring beauty—and a vapor-barrier under the floor; non-staining gutters at the eaves—and non-staining nails in the clapboards below?

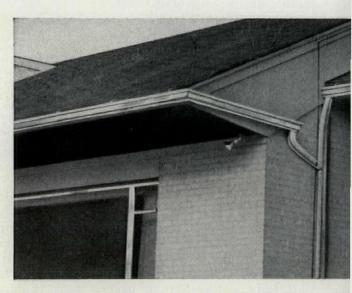
Whether your next problem concerns primarily design or construction, versatile Reynolds Aluminum may very well provide the answer. For literature in A.I.A. file form, address

Reynolds Metals Company, Building Products Section, 2019 S. Ninth St., Louisville 1, Ky. Offices in 32 principal cities.

REYNOLDS Lifetime ALUMINUM GUTTERS and DOWNSPOUTS

Rustproof permanence at about half the cost of other rustproof materials. Slip-joint installation—no soldering. 5" residential gutters available in Ogee style, with 3" downspouts to match; and in Half-Round style, with 3" round or corrugated downspouts. Both styles in either smooth or stipple-embossed finish. Specify one 3" round or square downspout





REYNOLD

REYNOLDS Lifetime ALUMINUM ROOFING and SIDING

Standard .019" and .024" thicknesses in 1½" and nominal 2½" Corrugated and 5-V Crimp, sheet lengths 6', 7', 8', 9', 10', 11' and 12'. Weatherboard Siding .024" thick, 8', 10', and 12' lengths. All in your choice of smooth or stipple-embossed finish. Also REYNOLDS Lifetime ALUMINUM INDUSTRIAL CORRUGATED, 0.32" thick, with corrugations ½" deep by 2½" crown to crown, for extra rigidity. Simple application over any type purlin. Reynolds can supply Nelson "Rivweld" Studs, the superior top-down installation. (Photo shows this Industrial Corrugated on a Drive-In Theatre.)



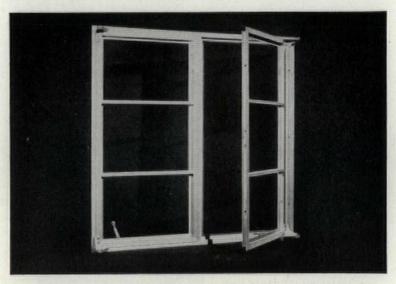
REYNOLDS ALUMINUM REFLECTIVE INSULATION

e most insulation in the smallest package—each roll contains 250 ft., in 25", 33" and 36" widths. Embossed aluminum foil bonded one side (Type C) or both sides (Type B) of tough kraft paper. cellent underfloor insulation and vapor barrier over unheated wl spaces (approximate conductance 0.10). A preferred sidell insulation (Type B bowed between studs). Over ceiling joists under rafters, two layers of Type B with intervening air space e conductance of approximately 0.14. Board types also available—I on one or both sides of rigid cardboard, for exposed application.



REYNOLDS ALUMINUM WINDOWS

For rustproof permanence, freedom from maintenance and smooth operation, nothing equals the roto-operated aluminum casement window. Reynolds Aluminum Residential Windows, casement, fixed and picture types, are soundly engineered—with flash-welded corners for extra rigidity and weathertightness. They are outstanding for beauty of design and finish. Full range of sizes. Reynolds Aluminum Screens fit all metal casement windows. Also window jambs and sills. Write for detailed catalog.



LUMINUM



For further details on all these products—and on Reynolds Lifetime Aluminum Nails, Flashing, Accessories, Architectural Shapes and Rey Kool 19" Selvage Built-up Roofing, write to Reynolds Metals Company, Building Products Section, 2019 S. Ninth Street, Louisville 1, Ky.

and-mastic layers for chimney and valley flashing, instead of heavier gauge metals.

In selecting the proper bond for the roof, the manufacturer discarded asphalt and other mastics containing coal tars because of their poor adhesion to aluminum, and their tendency to soften or crack in extreme weather conditions and tear the foil. Plastic materials were partially successful but cost too much for a "low priced" roof. An old standby, cotton rubber, was found to form

a lasting bond with aluminum. Furthermore, it was not affected by heat or cold, acid fumes or salt air. But this stable vegetable sealer was too gummy to hold the mineral finish. With asbestos fibers added, the mastic not only had the right consistency but also had additional insulation value. The complete roof is said to have as high a K factor as 2 in. of mineral wool.

Manufacturer: Aluminum Building Products, Inc., Route 1, Atlantic Blvd., Jacksonville 7, Fla.



PROTECTION FOR A PRECIOUS PACKAGE

What a reassuring feeling! Proud father experiences it when he views his helpless new offspring in the protective care of a well trained nurse. His friend, an architect, experiences it too, but for a different reason. For the community's new hospital he specified the "protection" of Fiberglas* Acoustical Tile ceilings. Combustible ceilings in hospitals can be tragic—as experience has shown.

Here's why he selected Fiberglas Acoustical Tile. The material is universally recognized by insurance interests as being non-combustible. This is based on Underwriters' Laboratories Incorporated's listing and as tested under Federal Specification SS-A-118a. Underwriters' Laboratories Incorporated's listing also shows smoke developed is negligible... no panic hazard, no toxic fumes.

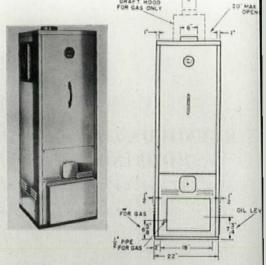
Your own comparison will prove that Fiberglas Acoustical Tile, either Textured or Perforated, offers many other extra values, such as, dimensional stability and high sound absorbing efficiency in a material that is inherently sanitary and moisture resistant. Write us today for our A.I.A. File No. 39-B, "Fiberglas Acoustical Materials", or refer to Sweet's Architectural Files. Owens-Corning Fiberglas Corporation, Department 67-F, Toledo 1, Ohio.

*FIBERGLAS is the trade-mark (Reg. U. S. Pat. Off.) of Owens-Corning Fiberglas Corporation for a variety of products made of or with glass fibers.



ACOUSTICAL MATERIALS

BUILDING INSULATION . ACOUSTICAL TILE . ROOF INSULATION . MEMBRANE FABRIC



COMPACT AIR HEATER is designed for perimeter heating systems.

Engineered specifically for perimeter heating installations, this counter flow furnace has duct outlets above and below floor level. The problem of just where to place the heating unit in a base mentless house is somewhat simplified by the Ranchief's compact and well insulated construction: approved by Underwriters' Laboratories for installation with zero clearance to combustible materials, the Hi-boy furnace may be set in a corner of a utility room or in a snug-fit closet All movable parts in the unit are rubber mounted for quiet operation; encased in its simple white enamel jacket, the Ranchief can join a row of kitchen appliances. It is equipped with either oil or gas burner, but may be converted from one fuel to the other in the field at nominal cost. It carries UL and American Gas Assn. approval for both fuels. Construction features are its 14 gauge steel heat exchanger welded in one piece and 20 gauge casing. Equipment includes a centrifugal blower with 1/6 h.p. motor, thermostat controls and blower switch. List price for the oil fired VC-1 is \$260, f.o.b. Mendota, Ill.; for the gas fired GC-1 unit, \$245. The Ranchief is fully packaged and wired at the factory for fast, economical installation. Another time and money saving feature is the flue pipe directly on top of the unit, facilitating connection to a prefab chimney.

Manufacturer: Conco Engineering Works, Mendota, Ill.

POCKET SIZE HUMIDITY INDICATOR gives accurate readings, is easy to use.

Useful for checking humidity in heating, air conditioning, ventilating and refrigeration systems, this pencil length instrument may be mounted on a wall or carried around in a pocket. Named Tag, the device consists of two calibrated etched-scale glass thermometers secured in a white plastic case. In use, a few drops of water are applied to the thermometer wick and the instrument is fanned or swung for several moments. The wet bulb reading is set opposite the dry bulb reading



on the simple attached slide rule which translates these readings into relative humidity—without reference to complicated charts and tables. The Tag will retail under \$10.

Manufacturer: Weston Electrical Instrument Corp., 614 Frelinghuysen Ave., Newark, N. J. (Continued on page 190)



Since its introduction, the Rusco Prime Window with built-in controlled ventilation has won immediate favor from architects, builders and home buyers because it provides advantages in year 'round comfort, convenience and protection never before achieved by ordinary window units. And . . . Rusco costs LESS to install and less to maintain.

Only RUSCO offers these design and construction features

All working parts of tubular, hot-dipped galvanized Armco Ingot Iron Zincgrip...Bonderized and finished with baked-



on aluminum, outdoor enamel . . . No field painting required . . . Removable panels facilitate building operation . . . Waterproof felt weather stripping throughout . . No weights, balances or cords . . Positive automatic locking in all positions . . . Available with or without insulating sash . . . Wood installation members toxictreated . . . Complete unit offers the com-Glass and screen panels lift out from inside for cleaning.

bined advantages of windows, so inside for cleaning. bined advantages of windows, screens,

Rusco's 14 years of experience in designing, manufacturing and installing over 5,000,000 Rusco Combination Windows is your assurance of the engineering and quality of Rusco Prime Windows. » Write for Catalog.

HE F. C. RUSSELL COMPAN



DEPARTMENT 7-AF60 CLEVELAND 1, OHIO



OPENINGS FOR DISTRIBUTORS IN SELECTED TERRITORIES

Because they're years ahead in steam generation . .



STEAM **GENERATORS**

have cyclonic* combustion POWER

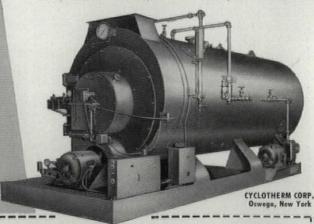
* WHAT IS IT? It's the modern scientific discovery of transferring heat at the highest degree of efficiency with a new low in fuel consumption. Principal factors of are the cylinderized solid flame with its exclusive cyclomotion power, designed to utilize the full potential of every particle of fuel . . . and the thin layer of air resulting from centrifugal force that's always between the flame and wall of combustion chamber. A combination to produce steam far in excess of conventional standards for measured heating surfaces.

SEND FOR ALL THE BIG REASONS

Learn how the completely automatic Cyclotherm with its unexcelled all-in-one package type features wipe out waste and excess costs. If you are planning a new or replace-ment boiler installation it will pay you to first get the facts on Cyclotherm. The coupon below is for your convenience.

SIZES available to fit your steam or water load for proc-essing or heating. Low pres-sure to 200 psi fired with light or heavy oil, gas of combinations.

ADDRESS



CYCLOTHERM CORPORATION

OSWEGO, N. Y.

Gentlemen: Please send me bulletin A-1 showing the advantages of Cyclotherm's new concept in Heat Transfer. Without obligation, of course.

NAME



ZONE CITY

STATE

to be truly modern a building must be air conditioned



by CHRYSLER AIRTEMP"

BASIC SYSTEMS TO FIT EVERY AIR CONDITIONING NEED

When you select air conditioning for your new building, remember the words-"Air Conditioning by Chrysler Airtemp" mean much more than they say. They mean that the building will embody all of the indoor comfort made possible by modern science . . . that it will have the ideal system to meet the air conditioning requirements of its occupants-year-'round!

That's because Chrysler Airtemp builds a range of products and systems sufficient to meet every air conditioning need-for every type and size of building. And architects, builders and contractors can rely on Chrysler Airtemp's skilled engineers for experienced technical help and unprejudiced advice in selecting and installing the best system for the job.

When desired, Airtemp Construction Corporation-subsidiary of Chrysler Corporation-will handle all or any part of the air conditioning operation -from making the original recommendation to the final installation. Let us send you a detailed outline of Chrysler Airtemp's products and services. You'll find it interesting and rewarding. Write today for the facts.

"UNITEMP" CENTRAL SYSTEMS INDIVIDUAL ROOM UNIT







AIR CONDITIONING . HEATING . COMMERCIAL REFRIGERATION AIRTEMP DIVISION OF CHRYSLER CORPORATION DAYTON 1, OHIO

ECONOMY ...



From the Western Pine Region

This fine general-purpose wood is now available in generous quantities. As manufactured by member mills to the high standards of the Western Pine Association, it comes to you carefully graded and well seasoned. Its cost is very attractive in these days when the market for more moderate priced homes is increasingly important.

If you are not familiar with the qualities, characteristics and uses of White Fir from the Western Pine region, ask your lumber dealer. And by all means, write for the White Fir Species Book. Factual, complete, profusely illustrated, including photographs of typical pieces of each grade. It's FREE. Write to Western Pine Association, Yeon Bldg., Portland 4, Oregon.



These are the Western Pines Idaho White Pine • Ponderosa Pine Sugar Pine

These are Associated Woods Larch . Douglas Fir . White Fir Engelmann Spruce • Incense Cedar and Red Cedar • Lodgepole Pine

Well manufactured-thoroughly seasoned - carefully graded by all Association member mills

extra white... THE PRUDENTIAL BUILDING IN LOS ANGELES

This building is the Western Home Office of the Prudential Insurance Company.

The shimmering white mass rises thirteen stories in the central portion and symbolizes the strength and resources of the company whose trade mark is the Rock of Gibraltar.

Except for the window spandrels, the exterior is architectural concrete units. The remarkable whiteness of these units is achieved by the use of *Trinity White* portland cement

and white quartz. We have prepared a descriptive booklet on the Prudential building showing the method of placing these units. Ask for it.

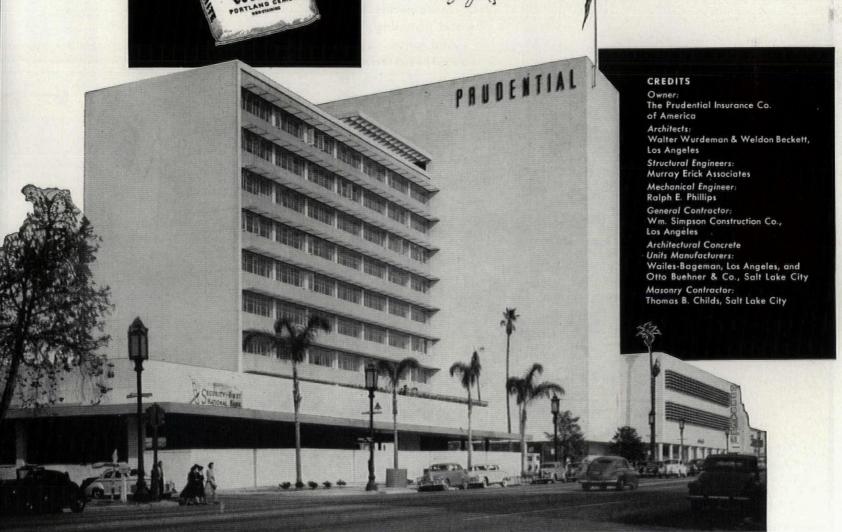
PLAIN OR WATERPROOFED

TRINITY WHITE Portland Cement

A product of General Portland Cement Company
OFFICES AT:

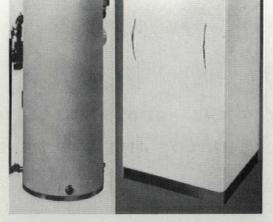
111 W. Monroe St., Chicago 3; 305 Morgan St., Tampa 2; Volunteer Bldg., Chattanooga 2; Republic Bank Bldg., Dallas 1; 816 W. 5th St., Los Angeles 5





HEATING UNIT for hot water or steam systems has tankless heater for domestic hot water.

Standing less than 5 ft, high, the National Packet is a neat, efficient boiler and hot water heater combination. Designed for residential and commercial use where there is a small-to-medium heating load, the new unit has a gross output of 115,000 Btu, and retails at about \$427 for the flush jacket model in gray crackle finish with exposed controls; enclosed in a white enamel



Their compact size and dual function make it easy to find a place for either of the Packet boiler-hot water heater models, even in the smallest home.

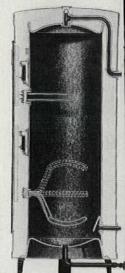
outer cabinet, at about \$448. Equipment factor built into the Packet for hot water systems i cludes: an oil burner, expansion tank and a eliminator, copper coil tankless heater with 180 gal. per hr. capacity, a modulating contrsystem, circulator, stack switch, an altitud pressure gauge and thermometer, draft regulato relief valve and room thermostat. Necessar accessories are also supplied for the steam boild models. Installation of the compact unit in bas ment playroom, utility cove, kitchen, etc. entail service connections and wiring.

Manufacturer: The National Radiator Co Johnstown, Pa.

WATER HEATER provides 50, 60 or 80 gallon of hot water to meet changing needs.

Utilizing the immersion method of water heatin and a patented three-way adjustable element

this unique automatic water heater is said to furnish any of three volumes of hot water to accommodate varying daily requirements, growing family needs or new washing appliance demands. Placed in its upper position the Cshaped element heats the 50 gal. stratum of water above it. Set in intermediate or horizontal position it provides 60 gal. of hot water, and in the lower position 80. Furthermore, this single element may be set for



wattages of 1,000, 2,000, or 3,000—depending on the terminal connections. The Smith 3-Way carries a list price of \$169.95.

Manufacturer: A. O. Smith Corp., Kankakee, Ill.

LOW PRICED PLASTIC LAVATORIES are stain resistant.

Formed in thick, shatter-resistant plastic these new lavatories are very light in weight, ranging from 2 to 5 lbs. They will not rust or stain and are guaranteed to withstand boiling water without damage. Their size and weight make them suitable for washrooms and small bathrooms.



Price for the type 701 (left) is \$16. The vanity insert model, type 501 (center) sells for \$20 and the corner unit, type 401 is \$15. The basins are available in light pink, green and blue as well as white. Standard size faucets and drains may be used.

Manufacturer: Durable Formed Products, Inc.. 329 Canal St., New York, N. Y.

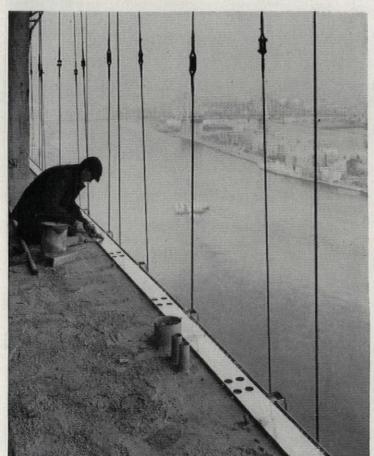
(Continued on page 194)



sample and descriptive folder,

write to manufacturer, Davidson Plywood and Lumber Co., 3136 E. Washington Boulevard, Los Angeles 23, California

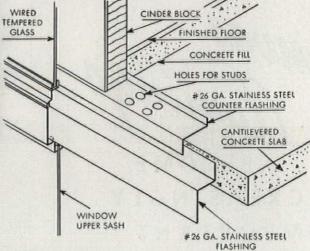
ENDURO-FLASHING WITH NEW IDEAS



- 39 Stories High and Every One Flashed with ENDURO

Designed by U.N. Headquarters Planning Office. Constructed by Fuller, Turner, Walsh, Slattery, Inc. New York

Rising high above the East River in New York City is this unusual structure with the two narrow sides of marble, the two wide sides a myriad of glass windows. To retain condensate and leakage, to divert it into window weep holes and thus prevent drainage down the mullions, ENDURO was pre-formed and soldered into continuous strips on every floor. The sketch below shows details of installation. The photo at the left demonstrates soldering of four-foot sections into continuous spandrel flashing. Holes shown accommodate vitreous ferrules of Nelson studwelds used to anchor windows,



There seemingly is no limit to the useful applications for Republic ENDURO Stainless Steel in architectural design, in building construction.

Here you see it used for flashing between floors of a famous building. You probably have seen it used, too, for mullions and spandrels, windows, curtain wall panels, entrance doors, stair railing, elevators, roof drainage materials, spires, marquees and countless other component parts of a building.

That's because ENDURO is so versatile... because it gives the designer a vast medium for expressing his ideas... because it gives the engineer a sound construction material.

ENDURO ranges in finish all the way from a soft, satiny lustre to the brightness of a polished mirror. It may be used both for harmonizing and contrasting

effect. It cleans easily. It is sanitary. Its striking beauty lasts indefinitely.

Functionally, it is tough and strong—with a high strength-to-weight ratio that permits safe use in thin sections. It resists rust and corrosion. It is equally strong at elevated or sub-zero temperatures. It cuts maintenance and replacement costs to lowest levels.

ENDURO is easily obtainable—readily workable. Distributors carry stocks and competent fabricators are located in principal cities.

Now, wouldn't you like to know more about this "magic metal" and the ideas it may bring to you? See Sweet's—or write us.

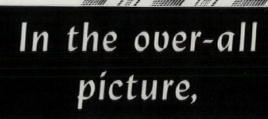


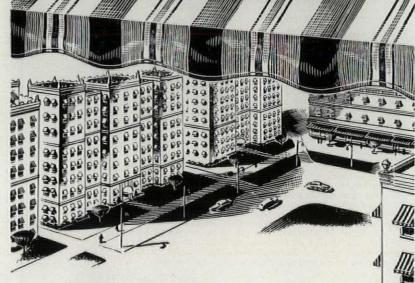
See Sweet's-or write us.

duro stainless steel

RUST-RESISTANT • CORROSION-RESISTANT • HEAT-RESISTANT • ATTRACTIVE • SANITARY • EASY TO CLEAN EASY TO FABRICATE • STRONG • LONG-LASTING • LOW IN END COST • What more can be desired in a material?

REPUBLIC STEEL CORPORATION · Alloy Steel Division, Massillon, Ohio · GENERAL OFFICES, CLEVELAND 1, OHIO Export Department: Chrysler Building, New York 17, N. Y.





Convas

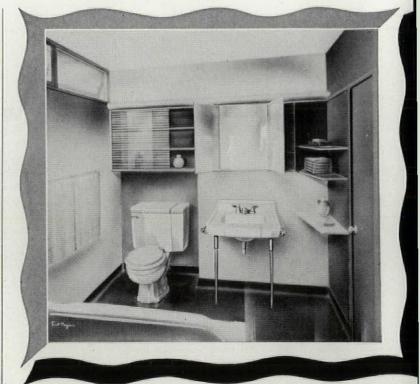
BECOME INCREASINGLY IMPORTANT

Canvas Awnings provide a protective, decorative finishing touch which adds to the charm and character of a building. The flexibility of Canvas Awnings, another plus value, allows quick and essential light control under changing weather conditions. Call on your local Canvas Awning dealer for suggestions of fabric designs, patterns and colors, as well as hardware to meet all artistic and practical needs.



THE CANVAS AWNING INSTITUTE, INC.

"There is No Substitute for Canvas Awnings"



Ernst Payer, Archite

here's a Universal-Rundle bathroom idea



 Here's a stunning new bathroom creation, designed with Universal-Rundle Fixtures.

Complete plans . . . handy ideas for you files . . . free for the asking!

There's no charge whatever. Send a re quest (on your letterhead) to Universal Rundle. We'll forward illustration, blueprin and all specifications.

See fashionable new color combination ... ingenious new methods to get maximun livability from limited areas.

See how Universal-Rundle Fixtures ad beauty and refinement...how U-R Fixture add sales appeal to the home!

Universal-Rundle has engaged Ernst Paye well-known architect and designer, to giv you the ultimate in workable ideas. And, remember, ideas are important as dollars.

Universal-Rundle has led the industry in new developments for more than 50 year building better bathroom fixtures and kitchen equipment, priced to fit all budgets.

Send in your request today for detailed plans to build the U-R "Budget Bath" as shown above. Don't delay. The supply is limited.



NEW CASTLE, PENNSYLVANIA

Universal-Rundle

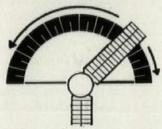
ORPORATION

SERVING THE WORLD FROM 5 PLANTS LOCATED COAST TO COAST

FLUORESCENT GOES FLEXIBLE!

Now! For the First Time — Circles! Curves! Any Angle!

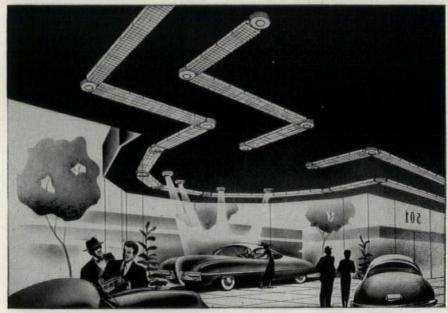
Sensationally new in concept, qualitybuilt in the Day-Brite tradition, PLEXOLINE is making headline news. Since its recent debut, lighting experts have discovered and praised Plexoline's unprecedented ability to achieve unlimited custom-lighting effects without premium cost.



SIMPLE, PRACTICAL PRINCIPLE

Three basic elements form the PLEX-OLINE system: 1. Linear section; 2. Circular accent unit; 3. Adapter fitting. The two illustrations show how the elements are used in combination to form any lighting pattern desired. All elements are complete in themselves, may be used individually.





PLEXOLINE AND IMAGINATION—AN UNBEATABLE SELLING COMBINATION!

Never before such wonderful possibilities for store and showroom lighting! Dramatic, beautiful PLEXOLINE creations put light where you want it . . . how you want it! Straight linear sections for offices, schools, colleges, banks, public buildings.

Plexoline

THE ONLY LIGHTING SYSTEM WITH TRULY UNLIMITED "FLEX-ABILITY"

What does PLEXOLINE mean to you? It means new freedom for your imagination. It means a line of light following a gently curving wall contour... angular patterns of light ... circles... any design. It means—for the first time in history—all the advantages of custom-lighting with

all the economies of a mass-produced system of fixtures.

Today, send for the whole amazing story of PLEXOLINE. Fill out and mail the coupon below. See for yourself what PLEXOLINE's unique "flex-ability" can do for you!



5471 Bu										1+	4
Toronto				-		-			,		~
Please				ur							
"PLEXO	LINE-IA	MAC	GIN	ATI	101	11	T	٧	VO	R	K
											7

THE PLEXOLINE SYSTEM

LINEAR SECTIONS—For Slimline and standard Fluorescent, 2- and 4-light, 4', 6', and 8' lengths, surface or suspension mounted. Albalite glass side panels, interlocked steel louvers, finished in HOT-BONDED SUPER WHITE enamel.

CIRCULAR ACCENT UNITS—15" and 21" diameter, with fixed Controlens* or adjustable spot mechanism. Luminous sides. Surface mounted only.

ADAPTERS — Uniform, die-formed, allsteel—in two sizes to fit circular units.

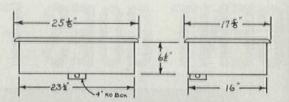
*® Holophane Co.





ELECTRIC GRILL sets into counter top.

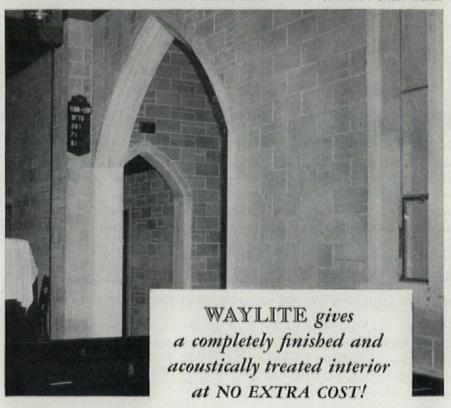
A pioneer of built-in range and oven units for custom installations, Thermador has come up with a new one: an electric griddle, smartly styled in stainless steel. This auxiliary unit for grilled dishes increases cooking facilities considerably. Set inside the 25 x 17½ in. satin finished steel frame is a thick aluminum grid, heavily ribbed on the underside for even heat distribution. Flush handles on the grid make it easy to lift for cleaning. The recessed grease cup



Handy for breakfast and quick snacks, this sleek cooking unit may be placed in the serving counter.

WAYLITE interior Zion Evangelical Lutheran Church, Chicago Architect: Herbert Brand •

Contractor: Crouch-Walker

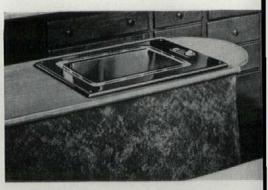


A Waylite masonry structural wall with the interior surface left exposed provides a 3-fold advantage for many types of structures. The soft lights and shadows of the textured grey surface is attractive. Waylite masonry has a noise coefficient of up to 50% and provides adequate acoustical treatment. It is a very economical architectural treatment because plaster or other finishes are eliminated.

You'll find such walls useful in churches, theatres, schools and many other types of buildings. You pay only for a structural wall and without further cost you have an attractive interior surface—completely finished—and acoustically treated!

For further information address Waylite Company, 105 W. Madison Street, Chicago 2, or Box 30, Bethlehem, Pennsylvania.





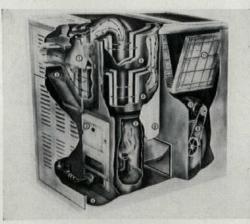
is also removable. An indicator light glows when the switch is turned on to any of its five hear positions. Listed by Underwriters' Laboratories the Thermador electric griddle operates or 2,000 w., 240 v. a.c. Its rough-in box is designed to drop right into the counter top. Retail price is \$57.50, f.o.b. Los Angeles.

Manufacturer: Thermador Electrical Mfg. Co. 5119 District Blvd., Los Angeles, Calif.

GAS AND OIL FIRED FURNACES have dual flue passage.

Working on the double radiator principle incorporated in all Radiation furnaces, the new RGO series is said to utilize more than 82 per cent of the fuel heat. This efficiency is achieved as the hot burner gases circulate around an upper radiator and then overflow down into another radiator where they again divide and circulate before passing up the chimney. Units are made for homes of four to 14 rooms: two gas-fired units have bonnet outputs of 100,000 and 136,000 Btu; the three oil burners have 100,000, 140,000, and 200,000 Btu outputs. Retail prices are about \$334 and \$382 for the two gas-fired, and \$389, \$437 and \$547 for the oil-fired models,

Elements on the cutaway view are: (1) safety damper to relieve pressure in case of control failure and to regulate combustion when the chimney condition or fuel is poor; (2) smoke hood easily removable for cleaning radiator; (3) access door with peek window; (4) American Gas Assn.



approved burner—or high pressure gun type oil burner; (5) and (6) flue passages for heat to circulate through; (7) combustion chamber and radiators, welded in single gas tight unit; (8) steel insulating shield surrounds heating section; (9) rubber cushioned pressure blower; (10) blower motor mounted on floating brackets for accessibility; and (11) replaceable filters.

Manufacturer: Radiation Furnace Corp., Benton Harbor, Mich.

(Continued on page 198)

Selectivity

FOR ANY PLAN ANY STYLE

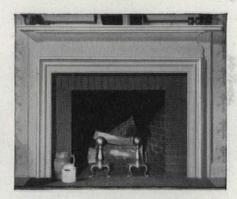
ANY SPACE

Ranch house—Cape Cod—Colonial—whatever the architectural style—whatever the size or cost of the house—Curtis has woodwork to fit your need. For the Curtis woodwork line is so wide—so varied—that it gives you practically unlimited scope in planning and building homes for every taste, need and pocketbook.

When you select Curtis entrances, mantels, china cases, stairways or kitchen cabinets, you can be sure of some very definite qualities. The materials will be carefully selected for every need. Craftsmanship will be fine because of Curtis precision manufacture—held to the highest standards for 84 years. Architectural styles will be correct. Costs will be moderate.

You'll find it worth while to have complete information on Curtis stock architectural woodwork—just mail the coupon.

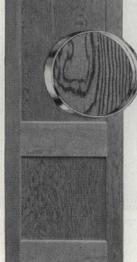




For books, prized china and objets d'art, Curtis china cabinets provide ideal storage. Here is one of eighteen Curtis styles in a wide price range.

Where the owner wants an entrance above the ordinary, this Curtis design will solve the problem and reflect good taste. Design C-1709—one of many outstanding styles.

A Curtis mantel makes the utility of a fireplace beautiful. Curtis mantels "wear well"—they were designed by leading architects have fine proportions and detail.



A new Curtis Development — PRESPINE

Prespine—the new wood material for use in panels in Curtis doors and other woodwork—now duplicates the natural grain of wood! Prespine panels, made of finely divided wood, will not warp, check or splinter—won't shrink or swell. Prespine is fadeproof... can be quickly and economically finished by skilled or semi-skilled labor.



Curtis makes a complete line of woodwork for the modern home. Make your next house "all Curtis."

Curtis Companies Service Bureau AF-6W Curtis Building, Clinton, Iowa





D STRENGTH OF STEEL

Throughout the nation wise builders are gaining lateral reinforcing for all masonry walls . . . brick, block or tile . . . with Dur-O-wal. Dur-O-wal is electrically welded to work fast on the job . . . unique design assures workman-like corners. For specifications and descrip-

tive folder, write, wire or phone Dur-O-wal Division, Cedar Rapids Block Company, 648 12th Ave., S.W., Cedar Rapids, Iowa.

Patented STEEL Reinforcing FOR MASONRY WALLS



Here's "what you should look for" elevator information for all architects.

DO YOU HAVE. "Elevator and Dumbwaiter Planning"— complete selection and standards in-formation in a new 58 page booklet. "Vertical Transportation For Modern Hos-

pitals"—specific features which should be incorporated in hospital elevator planning.

"Shepard RAM LIFTS"-low-first cost, low operating cost oil hydraulic lifts for four floors or less.

WRITE FOR YOUR COPIES TODAY

SHEPARD ELEVATOR COMPANY

2440 F COLERAIN AVENUE

CINCINNATI 14, OHIO

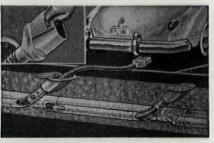


Specify

THE APPROVED GARAGE VENTILATION EQUIPMENT

Standardized engineering simplicity that lends perfectly to new garage buildings—efficiency, appearance, economy of installation and shop working conditions. The method of exhaust gas removal used by "National" is recommended by health departments, insurance companies, architects, building contractors and building codes in most cities and states. 4 different types of systems to choose from. Complete packaged units—ready to install. Nothing else to buy—low in cost.

Illustration shows sectional view of "National's" underfloor disappearing tube installation. Note that tube disappears without entering main trunk line—for balanced flow of air through main duct and perfect exhaust gas removal. Write for complete literature and costs.



THERE ARE MORE "NATIONAL" SYSTEMS IN OPERATION IN THE UNITED STATES AND CANADA THAN ALL OTHER TYPES OF SIMILAR SYSTEMS COMBINED. LITERATURE AND FULL INFORMATION ON REQUEST.

THE NATIONAL SYSTEM OF GARAGE VENTILATION World's Largest Manufacturers of Exclusive Garage Ventilation Equipment DEPT. 9-D, 318-330 N, CHURCH STREET, DECATUR, ILLINOIS

for the people

FOR the people is this handsome Memorial auditorium with its attractive terrazzo floors and stairs. For the people also is the pernanent, non-slip protection given these floors and stairs by the use of ALUNDUM terrazzo ggregate.

ALUNDUM terrazzo aggregate will give ny terrazzo floor or stairway two added adantages: positive, permanent, non-slip proection even when wet, and greatly increased year resistance.

For the people are the non-resonant and comfortable walking qualities of ALUN-DUM terrazzo floors. Available in a wide variety of colors, ALUNDUM terrazzo aggregate combines attractiveness with its non-lip protection and wear resistance.

For lobbies, foyers and entrances, and for ramps and precast stair treads, you can compine common-sense with good taste and add safety to attractiveness by using ALUNDUM terrazzo aggregate.

See our catalog in Sweet's (SA and SE) or write for our free catalog, number 1935



Other Norton non-slip floor products are Alundum aggregate for cement floors, Alundum stair and floor tile, and Alundum ceramic mosaic tile. All of these serve the public by making your floors, ramps or stairs permanently non-slip.



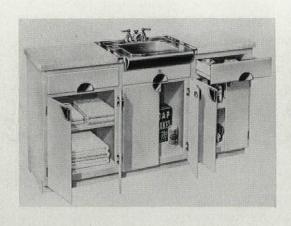
NON-SLIP FLOORS

NORTON COMPANY
Worcester 6, Massachusetts

PRODUCT NEWS

LAVATORY-DRESSING TABLE is attractive space saver.

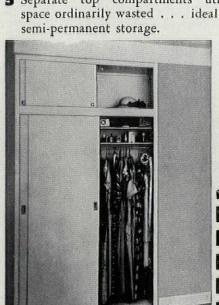
Containing a vitreous china lavatory, a large counter area, and as much storage space as some closets, the Dresslyn is a good looking ready-built fixture for bathrooms and powder rooms. The compact unit is manufactured in many color combinations in two styles: a closed front model with two drawers and three storage spaces; an interrupted front model with a kneehole section at right or left, and one less storage compartment.

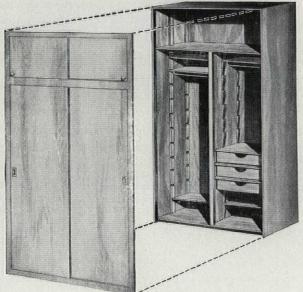


Get More (and Better) Storage With MENGEL WALL CLOSETS!

Prefabricated Mengel Wall Closets have five important advantages over conventional closets:

- 1 Modern construction eliminates thick, expensive wood studs, lath and plaster . . . offers greater storage space for equal cost, or equal space at lower cost.
- 2 Efficient sliding doors (suspended on ball-bearing hangers from aluminum track) - permit full access to inside full use of living space outside.
- 3 Interiors scientifically designed for maximum storage. Adjustable shelves and rods easily raised or lowered to give right proportion of shelf space and hanging space for individual requirements.
- 4 Sliding drawers (optional) provide "bureau" storage—fit either above or below shelves, easily moved from one position to another.
- 5 Separate top compartments utilize space ordinarily wasted . . . ideal for semi-permanent storage.





Interior of Mengel Wall Closet (doors removed).

Available in a variety of sizes and models, in Birch or prime-coated for painting. Units may be combined to form complete partitions. Shipped K.D. with front frames and doors assembled, all hardware included. Easily installed. Comply with FHA requirements. Closet Fronts also available. Mail the coupon!

Cabinet Division—Dept. AF-5 THE MENGEL COMPANY 1122 Dumesnil St., Louisville 1, K	у.
Gentlemen: Please send me com Closets and Closet Fronts.	plete information about Mengel Wall
Name	
Firm	
Street	
City	State



Towels, medicines, toiletries stored in the Dresslyn are all within

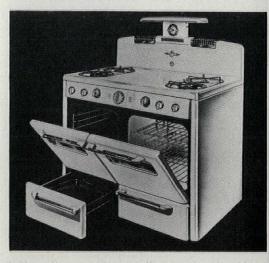
Unusual disc hardware and the lavatory's easy to-clean roll rim give the Dresslyn its distinctive appearance. Where there is not enough space for the entire unit, the lavatory may be purchased separately for use in a custom cabinet. Fittings include an aerator which minimizes splashing

The Dresslyn's moisture resistant hardwood cabinet is 31 in. high, 16 in. wide and either 581/2 or 621/4 in. long, depending on the lavatory which comes in two sizes. A stainless steel strip forms a watertight seal between the lavatory and counter top. Made of stain resistant plastic, the top is available in linen, mother-of-pearl and wood patterns.

Manufacturer: American Radiator & Standard Sanitary Corp., Pittsburgh 30, Pa.

GAS RANGES have broiler which doubles as second oven.

Two new gas ranges carrying the Certified Performance seal of the Gas Appliance Manufacturer's Assn. were introduced on the market recently. Basically the two models are the same except that one has automatic controls. Each is 40 in. long and features a broiler which cooks food on both sides at the same time. This broiler, placed at a convenient height next to the oven, can serve as a second baking oven. Both broiler and oven doors have viewing windows of heat resistant glass. The stainless steel surface burners are engineered to use natural, manufactured,



L-P or Butane Air gas. Retail price for Model 956, equipped with an automatic clock which turns oven and convenience outlet on and off, is \$359.50. Model 955, with a clock but no automatic control, sells for \$329.50.

Manufacturer: Perfection Stove Co., 7609 Platt Ave., Cleveland, O.

(Continued on page 202)

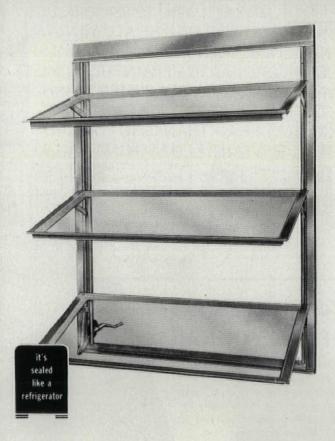
Auto-lok The tightest closing window ever made!





IT GOES TO ALL Extremes TO SATISFY!

Whatever the season, the temperature or the locale--AUTO-LOK, the performance-proven awning window, will thoroughly justify your specification



The All-Climate Awning Window

Termed the most important window development in the past 30 years, AUTO-LOK has earned praise from architects in all sections of America who have told us it is the first and only window to successfully combine the *best* features of *all* window types.

Effectively Weatherstripped FOR USE ON COTTAGE OR SKYSCRAPER

Offering positive protection against all climatic extremes, AUTO-LOK opens almost 90 degrees for draft-free ventilation; it scoops in welcome breezes on hot sultry days just as efficiently as it keeps out unwelcome rains or winds when called upon. Unique, patented construction and dependable weatherstripping make it the tightest closing window ever made! Ask to see our "Tattle Tale" demonstration -- convincing evidence here is a window that should enter into much of your own planning.

PHOTOGRAPHS

LEFT - Residence of John Stetson, Orange Grove Road, Palm Beach, Florida. John Stetson, Owner and Architect.

RIGHT - Residence of Mr. & Mrs. Ralph Smith -- Toledo, Ohio...R. B. Johns Co., Toledo, Designer & Builder.



Write for FREE Pamphlet
"What Is Important in a Window?"

For full details, consult SWEETS, your nearby AUTO-LOK distributor (name on request) or write Dept. F5

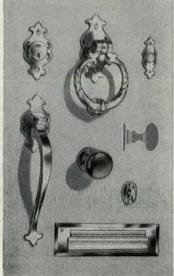
LUDMAN CORPORATION
P. O. Box 4541
MIAMI, FLORIDA

Phoose CORR

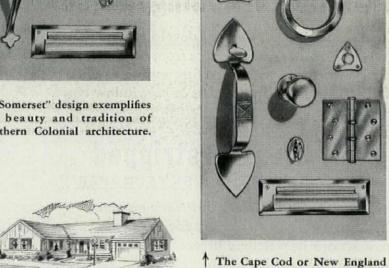


FOR FRONT DOOR HARDWARE

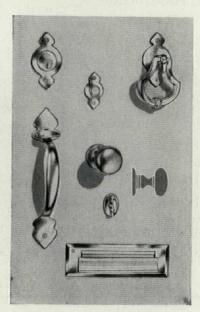
The charm and individual character of Corbin design relate the door, handle, knocker and push button to the architectural style of the house.



*Somerset" design exemplifies the beauty and tradition of Southern Colonial architecture.



Colonial doors call for the substantial beauty of "Plymouth" design in solid cast brass. ← The Corbin "Concord" design



is particularly adaptable to the current American Farm and the popular Ranch Type homes.

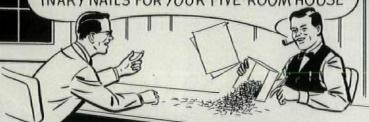
Good Buildings Deserve Good Hardware



The American Hardware Corporation New Britain, Connecticut

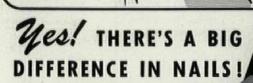
BUILD PRESTIGE . ISFY CUSTOMERS This Easy, Economical Way

BILL, YOU'LL BE GLAD I SPECIFIED NICHOLS NEVER-STAIN ALUMINUM NAILS FOR YOUR HOME. THEY WON'T RUST LIKE ORDINARY NAILS, THEY WON'T STREAK OR STAIN PAINTED SIDING OR CAUSE SIDING TO LOOSEN THROUGH NAIL RUST. YET THEY COST LESS THAN \$3.50 MORE THAN ORD-INARY NAILS FOR YOUR FIVE-ROOM HOUSE



ONE YEAR LATER

MR, LEE, I WANT TO PERSONALLY THANK YOU FOR USING ALUMINUM NAILS ON MY HOME. ONE OF MY NEIGHBORS HAD TO REPAINT HIS HOME LAST WEEK BECAUSE OF RUSTED SIDING. COST HIM \$300. MY PLACE LOOKS GOOD AS NEW - THANKS TO YOU AND NEVER-STAIN ALUMINUM NAILS!



Nichols Never-Stain Aluminum Nails are etched from head to tip for greater holding power . . . drive easy . . . lighter to carry . . . and cost less to apply because no countersinking or puttying is necessary! Billions have been used.

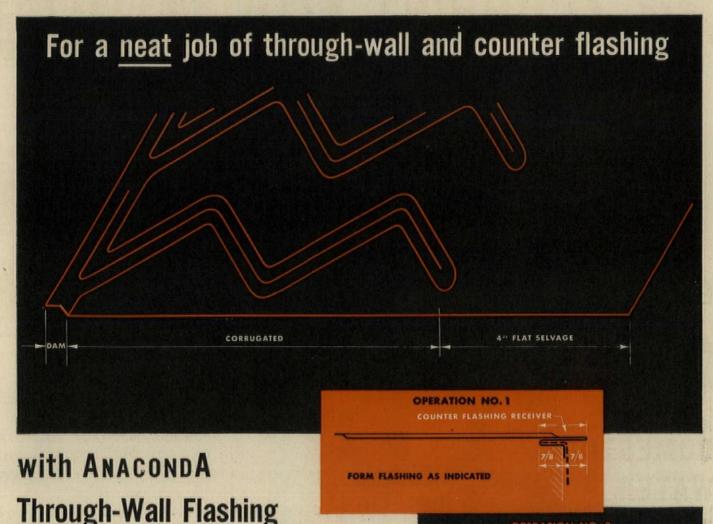
NOW PACKAGED FOR THE JOB!



NICHOLS WIRE & ALUMINUM CO.

General Office and Plant — Davenport, Iowa

ALUMINUM IS NOT A SUBSTITUTE!

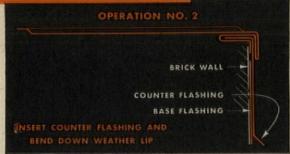


Heretofore, the usual practice has been to tuck metal counter flashing into the mortar joints of a parapet wall and raise the exposed portion of the counter flashing in order to install the base flashing, then bend it down again to make the job storm-tight.

That's outmoded. Outdated. And needlessly expensive. Besides, you simply can't get a neat job that way. The metal, when bent down and up, cannot be made to lie snugly against the wall.

ANACONDA Through-Wall Flashing has a plain selvage that makes installation of the counter flashing neat, fast and simple. Incidentally, no other through-wall flashing has this feature.

With ANACONDA Through-Wall Flashing two easy operations do the trick as shown in these drawings.



Information on ANACONDA Through-Wall Flashing and procedures for installation are detailed in Publication C-28. A copy will be forwarded upon request. Address The American Brass Company, Waterbury 20, Connecticut. In Canada: Anaconda American Brass Ltd., New Toronto, Ont.

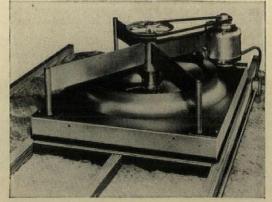


You can build it better with ANACOND

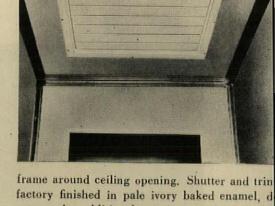
THROUGH-WALL FLASHING

DISCHARGE FAN with automatic ceiling shutter fits low clearance attics.

This vertical discharge attic fan is relatively easy to install, Construction work consists of creating a ceiling opening and adequate exhaust areas. Fan, motor and suction box are all in one unit that is placed on the attic floor. A heavy rubber base provides the air seal and cushion between fan frame and floor—fastening screws or bolts are not needed. The automatic ceiling shutter is installed by screwing it to a wood



Cushioned against the floor by a rubber base, this new attic fan requires no fastening or plastering.



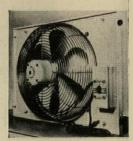
frame around ceiling opening. Shutter and trin factory finished in pale ivory baked enamel, d not require additional painting, nor is any plas tering necessary. Only 17½ in. high, this mode may be used in a low clearance attic. It is available in 4,750 and 6,800 CFM capacities at \$139.56 and \$159.50.

Manufacturer: Hunter Fan & Ventilating Co. 400 S. Front St., Memphis, Tenn.

WINDOW FANS feature reversible motors.

Two new models recently marketed by Signa Electric have reversible action. A flick of the

switch and fresh air is drawn in from outdoors, or when the switch is turned to the exhaust position, the room may be cleared of smoke and stale air. Both fans have wing nuts which allow the telescopic panel to fit windows of varying sizes. The model WR-122, re-



tailing at about \$31, has a 12 in. fan with a one-speed toggle switch. It will fit openings from 265% in. to 383% in. wide. Air delivery in either direction is 800 CFM. A 16 in. reversible window fan for window widths 27½ in. to 36¾ in., the WR-162 sells for about \$42. The larger fan has two speeds in either direction and delivers 1,500 CFM. New non-reversible models with 10 in., 12 in. and 20 in. blades are also available.

Manufacturer: Signal Electric Mfg. Co., Menominee, Mich.

CIRCULATING PUMP is adaptable for large radiant heating systems.

This hot water circulating pump, according to the manufacturer, will help to warm even remote rooms efficiently, save fuel and reduce calcification in pipe lines. It has been designed

especially for radiant heating and circulating hot water in large buildings, yet is quite compact, standing less than 4 ft. high. A heavy duty type mechanical seal protects the pump against leakage. Resili-



ent mounting and molded rubber shaft couplings insure smooth, quiet operation. The unit may be installed in either a vertical or horizontal position. Pumps in 1½ and 1½ in. sizes cost \$55, f.o.b., St. Louis. The 2 in. sells for \$70.75 and 2½ in. for \$93.35.

Manufacturer: Fairbanks, Morse & Co., Westco Works, St. Louis, Mo. (Continued on page 206)



A DISTINCTIVE, NEW SIDING MATERIAL

FOR LOW-COST ARCHITECTURAL

EXPRESSION

THIS NEW VERSION OF WELDTEX* PLYWOOD IS FINDING FAVOR WITH ARCHITECTS

Chances are you've used Weldtex panels before...with striking effect. Now this popular material is available in a new form...convenient, easy-handling size for exterior siding.

The deep striations give you all the beauty of the finest cedar shakes...plus a smooth, trim, modern line that gives beauty to your designs. In one material, you combine all the good points of shingles and clapboard ... and minimize the problems.

And look at the structural advantages.

Only 22 pieces cover a square. You get a 13%" exposure and only a 2" lap. You have a minimum of seams, and those easily backed up.

With a combination like that, you can see why architects who have used it are enthusiastic about Weldtex Siding.

Fast application saves substantially in labor costs. Short laps and long exposure cut material requirements far below those of shingles. The easy, effective back-up for the few seams makes weather-proofing simple and certain.

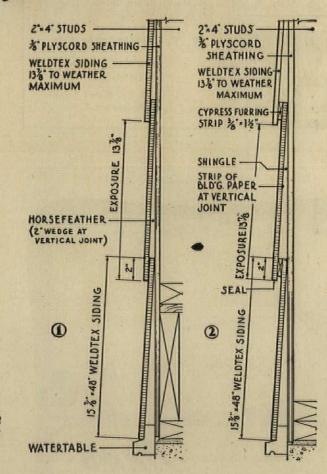
Weldtex Siding is approved by F.H.A. on Federal

Housing jobs.

Get complete information on this new siding material. It speeds, simplifies and improves construction... and adds beauty to any home. Write us today. We'll rush you full details.

#U.S. PAT. NOS. 2286068, 2363927, 2363492. TRADE MARK REG.

Detail 1 shows normal installation of Weldtex Siding. Detail 2 shows how simply and easily you can fair out the butt of the board to create a deeper shadow line, when desired.



Weldtex Siding is 3-ply Exterior Grade

Douglas Fir Plywood 3/8" thick. Panel size: 48" by 157/8".



WELDWOOD Plywood

Manufactured and distributed by

UNITED STATES PLYWOOD CORPORATION

New York 18, N. Y.

and U. S.-MENGEL PLYWOODS, INC., Louisville 1, Ky.

Branches in Principal Cities · Warehouses in Chief Trading Areas · Dealers Everywhere

You get MORE HEAT from LESS OIL with Automatic

Famous 1903



JOHNSON Oil BURNERS



You'll like the fuel-savings that a Johnson Burner will give you. And you'll like its quiet, carefree dependability. If you are con-fronted with a heating problemlarge or small let your Heating Engineer show you what a difference an automatic Johnson Burner can make in your fuel and service bills.



FOR FACTORIES

There's a Johnson Burner for every heating need ... all precision-built to give years of satisfaction...all engineered to max-imum efficiency...all backed by a 47 year record of dependability. See the Johnson Burner dealer near you.



S. T. JOHNSON CO.

940 Arlington Ave. Oakland 8, California

401 No. Broad Street Philadelphia 8, Pa.



Walls of Beaut INSIDE AND OUTSIDE



So beautiful . . pensive! So light in weight . . . yet so strong! A smooth, lustrous enamel finish in 14 decorator colors, permanently bonded to sturdy aircraft aluminum. Ideally suited for use in homes, institutions . . . for in or on business buildings and theatres.

FIREPROOF . RUSTPROOF WATERPROOF

EASY TO CLEAN. WILL NOT CRACK, PEEL OR CHIP.

NA

Permits modernization of old buildings without introducing structural stress problems. Easy to apply, with a decided saving in labor hours. Complete information on request.

MAKE FRIENDS - MAKE MONEY WITH ALUMITILE

METAL	TILI	E PROD	UCTS,	INC.
DEPARTMENT	601	HASTINGS,	MICHIGAN	

SMENT OR A REFUND OF Guaranteed by Good Housekeeping OTAS ADVERTISED THEREIN

Send	me	additional	information	regarding	alumitile.
1		Distributes	- D	- T A	taa []

n	Distributor	Dealer	Architect	Contractor

٨	A E			MONT	FIRA	٨	ALE L	
							DEVINE OF	The sale

ADDRESS	ZONE_

CITY STATE

UNUSUAL OPPORTUNITY FOR SALES EXECUTIVE **FIVE FIGURE SALARY PLUS LIBERAL BONUS**

Long established, expanding and progressive building materials manufacturer, located in Midwest with national distribution through 1500 dealers, needs experienced Sales Administrator for management position, 30-40 years of age. Man sought is now employed as sales manager, division, district or assistant sales manager whose future seems limited because of size of business or organizational set-up. Must have college education in Architecture, Engineering, or Business Administration. Experience in building material sales field desirable. Experience in sales administration through dealers and distributors absolutely essential.

This opening presents immediate opportunity to step into a top sales management position for the right man.

In your confidential reply, give complete information in detail as to previous experience, education, and personal background. Our employees know of this opportunity.

> Address Box 10 Architectural FORUM 9 Rockefeller Plaza, New York 20, N. Y.



Architects like to specify G-E Textolite Plastics Tops because they can depend on this surfacing material to do a job that insures client satisfaction. These tops give sparkling beauty to domestic kitchens-add color and customer-appeal to commercial dining rooms. Highly resistant to heat, scratches and stains, G-E Textolite Plastics Tops help reduce maintenance costs by standing up well under hard daily usage.

Exclusive colors and patterns

The variety of attractive, colorful patterns helps designers to match existing color schemes or to create any desired decor. This plastics surfacing is ideal for table tops, soda

fountains and all kitchen work surfaces. It has even been used as decorative wall paneling with striking effect.

Clients are satisfied when specifications call for G-E Textolite Plastics Tops. Made by General Electric, these tops bear a name which inspires confidence and the assurance of a reliable product.

For more information about G-E Textolite Plastics Tops, write to Section L6, Chemical Department, General Electric Company, Pittsfield, Massachusetts, or use the coupon below.

You can put your confidence in

GENERAL ELECTRIC



General Electric Company, Section L6 Plastics Division, Chemical Department Pittsfield, Massachusetts

Please send me a free copy of your new illustrated booklet, including a pattern sheet showing G-E Textolite Top designs in full color.

Business

Address

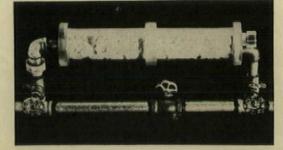
plastics surfacing

GENERAL @ ELECTRI

BReg. U. S. Pat. Off.

PLUMBING ATTACHMENT checks rust formation in piping system.

Crystals in the Aqua Clear's feeder slowly dissolve as water passes over them and form a transparent protective film on the inner surfaces of tanks and pipes. This microscopically thin deposit (the solution will not adhere to itself and so cannot build up to any measureable thickness) is said to hold rust in check and stop galvanic action which frequently causes corrosion where more than one kind of metal is present in the

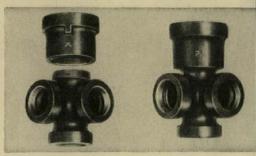


The melting crystals form a thin film on pipe linings which guards against further rust formation.

plumbing system. The equipment, includicrystals, costs \$30. Installation is simple a takes about an hour. Only operating cost is to occasional replacement of crystals. For an avage home, this cost would run about \$7 a yes Manufacturer: Sudbury Laboratory, South Subury, Mass.

PLUMBING FITTING simplifies connections f fixtures.

A cast iron fitting for attaching an addition fixture to the existing drain and vent stack, to Util-Ty provides a convenient inexpensive piping arrangement for replacing a single sink with double one or connecting a dishwasher or gas bage disposer. The fitting is made in two styles.

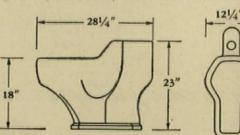


One, designed for tight places, has a removab vent bell. The other, with integral bell, is adapte for accessible places. If installed on new construction, the Util-Ty should facilitate the connection of other fixtures in the future. It available in 1½ and 2 in. sizes, either black of galvanized.

Manufacturer: Kuhns Brothers Co., 1842 Mc Call St., Dayton 1, Ohio.

PLUMBING FIXTURE is designed to improv sanitary conditions in women's rest rooms

The Sanistand is a new development for publi rest rooms, factories, offices, and schools. Thi seatless woman's urinal is not touched in usage Manufactured in white and pastel shades, th vitreous china fixture fastens to the floor as doe a regular water closet, but it stands slightly higher than conventional water closets. A foo operated flush pedal completes the sanitary design. Its price is comparable with men's urinals

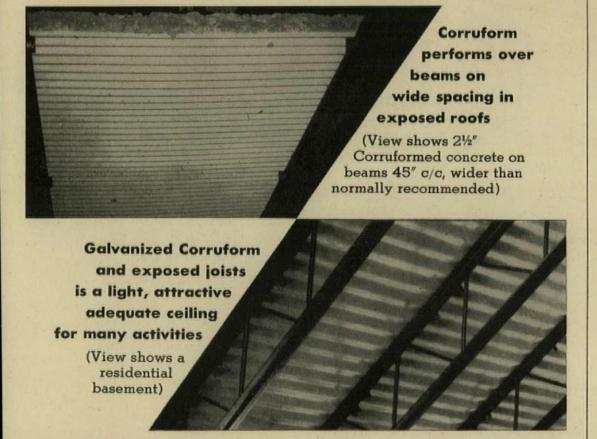


Test installations were conducted in large build ings throughout the country where women were asked to write their comments on the Sanistand More than 90 per cent voted in its favor.

Manufacturer: American Radiator & Standard Sanitary Corp., Pittsburgh 30, Pa.

(Continued on page 212)

CORRUFORM MEANS GOOD LOOKING EXPOSED JOIST CONSTRUCTION



High-strength, light weight Corruform is economical. No sag or material waste for conventional joist construction.

Bright, decorative corrugated pattern makes an attractive exposed ceiling. Plain or galvanized—vinylprimed for painting exposed ceilings are uniform, economical and suitable for many occupancies. Under insulated concrete roofs, Corruform is an ideal vapor seal.

SPECIFY CORRUFORM Economical Strength 100,000 p s i

One quality, uniform standard.

Patented Corruform is your guarantee for good construction.



THE THORO SYSTEM Presents









The above is a candid sectional view of 150-individual-apartment building project, Prospect Park, Pittsburgh, Pennsylvania.

All interior surfaces of exterior masonry walls sealed with VaBar Plaster Bond,

PLASTER BOND SPECIFICATIONS

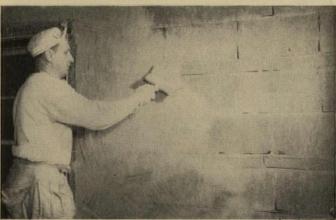
All interior surfaces of exterior walls, to be plastered, shall be thoroughly cleaned, making sure that all excess mortar, projecting from wall surface, has been removed and repointing done by mason contractor, where necessary.

After thorough preparation of surface, heavy brush coat of VaBar Plaster Bond shall be applied over all surfaces to be plastered, minimum of 3 * VaBar Plaster Bond per square yard or sufficient material used to completely fill and seal the surface.

As application proceeds, surface shall be roughened by sweeping in vertical and horizontal sweeps, with regular house broom.

Curing period of several days is recommended.

Mixing and application of VaBar shall be in accordance with printed specifications, furnished by manufacturer.



anyone can apply Vabar

Write for our 20 page brochure, pictorially describing masonry problems, and specification writer's wall chart.



Build better! Sell faster!

DURALL SCREENS





Snaps into place from inside!

Durall Aluminum Tension Screens can be installed quickly, easily. No ladder climbing, no side frames to cut.



Aluminum! No rust and no painting!

Durall is a hard-wearing allweather screen that keeps its good looks! Will not rust or stain light surfaces.



Light, flexible, easy to store!

Turn a thumbscrew for a snug fit! Screen swings free for window washing ... makes a compact roll for storing!

Only \$3.75 for average size!

	New York Wire Cloth Company, Dept. AF-6 445 Park Avenue, New York 22, N. Y.
	Please send me complete specifications and catalog on DURALL SCREENS. Also the name of your distributor nearest me.
t	Name
,	Address
(CityState

DRY WALL CONSTRUCTION



has proved satisfactory ...

Says Carl G. Lans, Director, Technical Service Department, National Association of Home Builders.

"When dry wall has once been accepted and gotten a hold, it has become general. The Washington, D. C., Metropolitan area is such an example. Before the war, everything was lath and plaster; now it is a rare thing in residential construction. Dry wall has proved satisfactory-not only because it is much more economical, but also because it produces a true, straight wall . . . and eliminates the introduction of many gallons of moisture into the house. In addition, it is a time saver."

For 32 years Homasote has been used for Dry Wall Construction-in millions of dollars of private homes.

Dry Wall Construction-with Homasote Big Sheets-offers many major advantages . . . The average wall is covered with a single sheet; batten strips and unsightly wall joints are eliminated. Joints are made at doors and windows, as desired . . . Labor costs are minimized; many fewer handling operations; many fewer nails . . . In a single material you provide lasting insulation value and great structural strength . . . You build a quieter home, free from dampness-with dependable insurance against musty closets and mildewed walls . . . Let us send you performance data and illustrated literature on Homasote and allied products.



SAYS MR. WETWALL

"I wet and warp the studs in every house I enter. No wonder the owner has maintenance trouble and costs."

SAYS MR. DRYWALL

(alias Mr. Homa-sote), "I keep the studs dry and straight and true. There's no cracked or falling plaster in my houses."







. in Big Sheets up to 8' x 14'

Oldest and strongest insulating and building board on the market

ILLUSTRATED LITERATURE

Send me literature as c	neck	ea:			
Standard Homasote	1 1/2	1 32 10	Wood-textured Homaso	te	
(Big Sheets)	()	(Panels)	(0.00
Striated Homasote			The Nova-Shingle and		
(Tiles and Panels)	()	the Nova-Speed		
The Nova Roller Door	()	Shingling Clip	(
Name	11	w mat	22 to 22 21 X		
(P	leas	se prii	nt in pencil)		
Address					



SERVING WASHINGTON, D. C.— The Shirley-Duke garden apartments for 2,106 families in Alexandria, Va., will rent at \$59.75 for one-bedroom units and \$72.50 for two-bedroom. Read why its builders selected NORGE Refrigerators.

In a full-page ad over its own signature ... Washington Post, March 5th ... the management of Shirley-Duke Apartments made this statement:

"Like every item selected for these lovely apartment houses, we, the builders, spent considerable time in deciding on the make of refrigeration that would give our tenants the best in this type of home appliance which plays such an important role in their daily lives.

"The choice-NORGE.

"Norge is a symbol of the high-type construction, workmanship and material that have gone into this ideally located development in nearby Alexandria, Virginia."

And so say more and more builders and developers throughout America—the kind that make the trends and look forward to protected investments. There's a Norge to fit every need. Send coupon at right for the complete details.

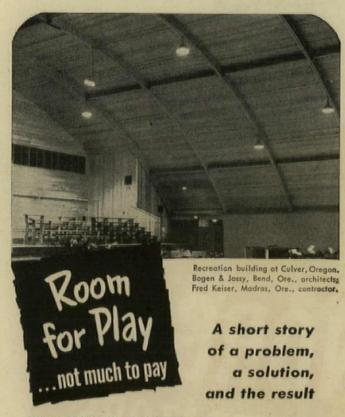
NORGE
REFRIGERATORS
Selected for
Trail-Blazing
Low-Cost Housing!



SEE THE FEATURES
OF AMERICA'S FINEST
HOME APPLIANCES

REFRIGERATORS • SPACE HEATERS • AUTOMATIC WASHERS
GAS AND ELECTRIC RANGES • ELECTRIC WATER HEATERS

NORGE Division, Borg-Wa Dept. AF-650, Chicago 54 Att: Director of Contract S	4, Illinois
Send me more information	on the following appliances
Refrigerators	☐ Water Heaters
☐ Automatic Washers	☐ Gas Ranges
☐ Electric Ranges	☐ Home Heaters
Name	Title
Company	
Street	
City	ZoneState



THE PROBLEM WAS COMMONPLACE. The town of Culver, Oregon, needed a substantial but low cost gymnasium and recreation center for school and community use.

THE SOLUTION WAS UNUSUAL. The building was built around five glued laminated constant radius arches mounted on 12-foot buttresses with poured concrete curtain wall and entrance at each side. End walls are of frame construction, with windows and alsynite panels. Three-inch tongue and groove decking is applied directly to the arches.

Shower and dressing rooms are in a partial basement. Floor is maple; woodwork is natural finish.

RESULT: LOW COST—DELIGHTED COMMUNITY. A permanent, distinctive building with 11,500 square feet of space was built for \$67,834 complete, including excavation, plumbing, wiring and heating—less than \$6 a square foot!

Timber Structures, Inc., welcomes consultation on similar problems. See the Timber Structures office nearest you, and send coupon for factual booklet, "Timber Members."

TIMBER STRUCTURES, INC.

P. O. BOX 3782-B, PORTLAND 8, OREGON

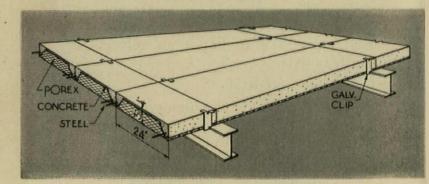
Offices in Boise, Idaho; Eugene, Oregon; Kansas City, Missouri; Lawrenceville, N. J.; Chicago; Dallas; New York; Seattle; Spokane.

TIMBER STRUCTURES, Inc. of California • Oakland, Sacramento and Santa Rosa
TIMBER STRUCTURES OF CANADA, Ltd., Peterborough, Ontario

Local Representatives Coast to Coast

P. O. Box 3782-B, Portland 8, Ore	gon		
Please send a copy of "Timber Me	mbers' to		
Name			
Company Name			
Address			
City	Zone	State	





POREX PLANK

Insulating . Acoustical . Structural

ROOF DECKS

- For variable spans up to 8 feet
 Nailable concrete surface provided on sloping roofs
- Heat insulation equivalent to 2 inches of cork Eliminates separate roof insulation Coefficient of Heat Transmission (U) = 0.16 Btu
- Good sound insulation and absorption
 Efficient and economical, exposed acoustical ceiling

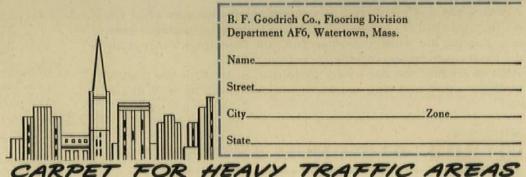
Typical Installations

SCHOOLS—Auditoriums, Gymnasiums, Classrooms
CHURCHES • THEATRES
COMMERCIAL AND INDUSTRIAL BUILDINGS

PORETE MFG. CO. North Arlington, N. J.



For samples of amazing ARRAZIN and complete information showing why you should specify it to solve the big problem of heavy traffic areas, clip this coupon!



THE MAGIC CARPE HEAVY TRAFFIC AREAS

LIGHTING FIXTURE provides useful illumination, is handsome room accessory.

Adaptable as a utilitarian lighting fixture for a store or reception room or as an unusual lamp arrangement for the home, S. J. Miller's Light Tree offers flexibility and convenience. Neat conical shades scattered strategically along a rigid floor-to-ceiling pole serve as directional spots and mood lights. An added touch of decoration and practicality is the small table set eccentrical spots and mood lights.

trically on the metal stem. A concealed support prevents the table from tipping or wobbling. Each lamp, rendered quite mobile by swivel joint and set screw arrangements, is adjusted by a wood knob at the top of its housing. The lower light may be placed to illuminate the table top and surrounding floor area; the upper ones can be used for accent lighting or reflected illumination. The Light Tree is shipped unassembled in specified lengths. List price for the basic unit with four lights, table and $8\frac{1}{2}$ ft, of $1\frac{1}{4}$ in.



IT CAN BE AN EXPENSIVE NOTION...

Some like Cadillac and others like Lincoln. And that's all right because both offer mighty comfortable transportation at about the same price.

But when it comes to entrances, it's different.

When you specify special extrusions, special hardware, special anything except what we catalog (in *Sweets*, too) you jump the price up quickly and make it rough on the client.

Not that you don't have full play in designing entrances when you follow the AMARLITE System of standard aluminum entrance components. You do. But when you depart from the units for which jigs are set, the jig is up as far as economy is concerned.

And we are sure you don't want to do that. So we hope you'll study our catalog, or give us a ring and let us work with you on it. Will you do that?



ALUMINUM ENTRANCES

AMERICAN ART METALS COMPANY
Telephone EMerson 5361 • Atlanta, Ga.



white metal tubing is \$125. Holes drilled at intervals in the tubing allow for various ar rangements and for carrying the wires from the fixtures within the tube to the nearest base outlet. A leather snubber at top prevents ceiling abrasion and the tube bottom and metal flange

are threaded for a wedge-tight fit between ceiling and floor.

Manufacturer: Middletown Mfg. Co., Box 340, Middletown, N. Y.

SCREW DRIVER has built-in flashlight.

Enabling the user to throw a circle of bright light on the work surface, this double purpose tool has a flashlight bulb, battery and directional lucite lens in its plastic handle.

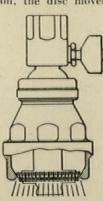
The light is operated by a knob in the handle dome and will remain illuminated until turned off. The knob does not interfere with manipulation of the screwdriver. Priced at about \$1.80, the tool is made in three standard sizes and has a chrome steel blade.

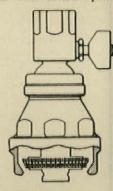


Manufacturer: Vaco Products Co., 317 E. Ontario St., Chicago 11, Ill.

SHOWER HEAD cleans itself automatically.

When the water is turned on, a disc in the Act-O-Matic shower head moves downward to deliver a cone-within-cone spray. When water is turned off, the disc moves upward. This action opens

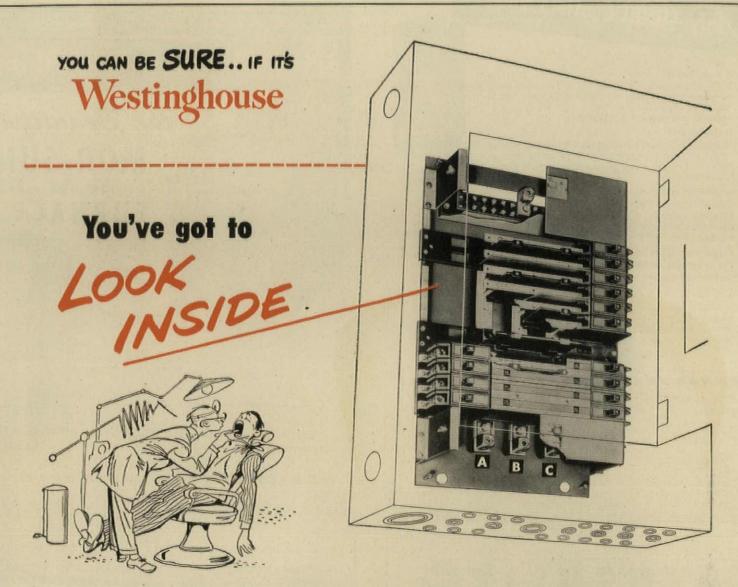




a free waterway through which the head may drain instantly and completely, washing out the water-borne substances that tend to clog shower heads. The Act-O-Matic is chrome plated and has a ball joint and volume control. Retail price is about \$5. Vandalproof models for institutional use are also available.

Manufacturer: Sloan Valve Co., 4300 W. Lake St., Chicago 24, Ill.

(Technical Literature, page 216)



... to check FITNESS in panelboards

Good breakers don't necessarily make a good panelboard. That's why it's important to look behind the breakers... to check construction details... to search for potential sources of trouble. But when panelboards and breakers are made for each other, this problem is eliminated... as it is when you specify Westinghouse.

Westinghouse Panelboards are Westinghouse throughout! You get the well-known dependability and quality of Nofuze "De-ion" Breakers... in a panelboard designed specifically to assure their finest performance.

Dependable breakers in a skillfully designed, well-constructed panelboard—this

is the kind of quality you'll want to call for in your specifications. Next time, specify Westinghouse Panelboards...and be sure!

Descriptive Bulletin 30-930 contains complete information plus typical specifications. For your copy, write Westinghouse Electric Corporation, P. O. Box 868, Pittsburgh 30, Pennsylvania.

J-40382



Only SUNROC offers you...

- 17 BASIC MODELS... with over 150 variations enable you to specify more exactly to meet particular requirements. For instance Model 26-the SUNROC SUPER COOLER—three units in one, Model SAFE for installations where an explosion hazard exists, and standard models for use in restaurants and cafeterias.
- CUSTOM MODELS...tailored especially to the most particular requirements . . . flush-wall mountings, stainless steel alcoves, remote units for multiple outlets, package set-ups for wall fountains . . . special units of all types to conform with your
- ENGINEERING SERVICE... to help you solve your water refrigeration problems . . . skilled engineers at your service, anywhere—anytime.
- EFFICIENCY SURVEYS ... to determine from your plans the strategic location of water cooling equipment for maximum efficiency at minimum net cost.
- NATION-WIDE SERVICE...in engineering—in sales—in maintenance.
 When you specify SUNROC, you specify Service and Satisfaction.

SUNROC, sole contractor for all types and sizes of Electric Water Coolers for 12 of last 13 years sold to the United States Government from GSS. Everything from small Post Office Buildings to ships of the Missouri Class.

SUNROC is the only water cooler manufacturer with water coolers to fit every individual need and application. We fit the cooler to the plan, not the plan to the cooler.

SUNROC COMPANY . Glen Riddle, Pa.

	send me Architects' File
SUNROC COMPANY Glen Riddle, Pa.	Efficiency Survey Form
Name	Title
Company	
Address	STATE OF STA
City	ZoneState







ONLY ONE MOVING PART



1 PRESSURE 02 2 TEMPERATURE

fluctuations in water supply lines

Shower temperature remains constant wherever set. They're modern, really safe and non-scald. For new installations or when modernizing obsolete showers use POWERS mixers. Get Circular H48. 2735 Greenview Avenue, Chicago 14, Illinois.

POWERS REGULATOR CO.



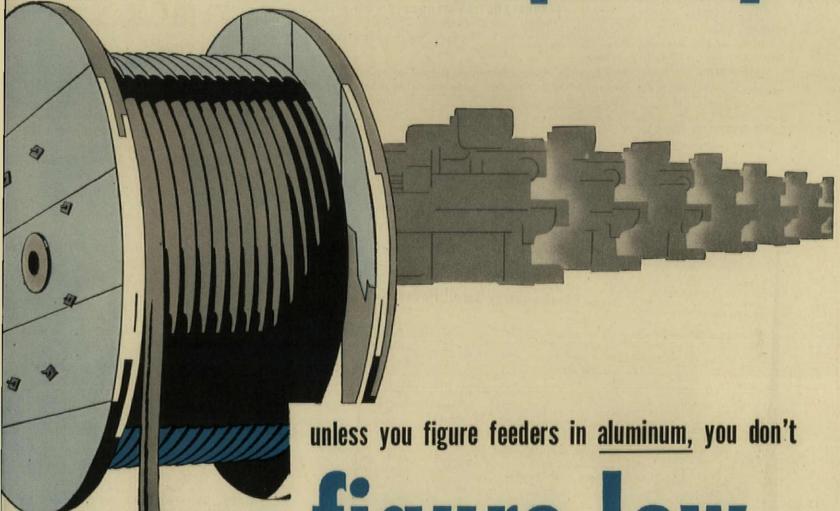


figure low

For the big cables that new plant capacity demands, figure both ways—in aluminum and copper. Size for size or on equivalent current-carrying capacity—you'll be surprised at how much you can save your client with aluminum.

For names of manufacturers and copy of "Questions and Answers About Aluminum Conductors", call your local Alcoa sales office, or write ALUMINUM COMPANY OF AMERICA, 1778F Gulf Building, Pittsburgh 19, Pennsylvania.



Aluminum Conductors

of ALCOA ALUMINUM are made by leading manufacturers

ALUMINUM. Reynolds Architectural Aluminum. Reynolds Metals Co., 2500 S. Third St., Louisville, Ky. 53 pp. $9\frac{1}{2} \times 11\frac{1}{2}$ in.

To present its enlarged line of architectural aluminum products effectively, the manufacturer has issued this portfolio covering extruded shapes, embossed sheet, perforated sheet, plain sheet and plate, tubing and pipe, and other building products. Designed for practical use, a pocket type folder holds the loose sheets, and the full size cross sections may be traced directly

on detail drawings. Assembly drawings are also shown for all items, explaining how the various sections fit together and to other building materials.

CONSTRUCTION PRODUCTS. Mileor Manual—Metal Lath and Accessories. Inland Steel Products Co., 4101 W. Burnham St., Milwaukee 1, Wis. 48 pp. 81/2 x 11 in.

This informative manual provides specification writers and architects with convenient factual

data on sheet metal building products. It is illustrated with cutaway views, application photos an installation cross sections. Described in the tex are advantages and various uses of Milcor metalath, corner bead and other accessories; furring fireproofing, solid and hollow partitioning system and miscellaneous construction items.

AIR CIRCULATION. Exhaust Fans (No. X6559) Air Circulators (No. X6558). The Emerson Electric Mfg. Co., 8100 Florissant Ave., St. Louis 21, Mo 16 pp. 3 pp. $8\frac{1}{2} \times 11$ in.

The first of these illustrated catalogues describes the manufacturer's electric direct-drive and belt drive exhaust fans and window and ventilating fans. It contains helpful information on where and how to use exhaust fans, how to determine the size fan required and how to install them. Details of design, construction, specifications and performance data are given for the fans, Similar technical information is presented in the second publication on air circulators as well as practical suggestions for their proper installation.

AIR CIRCULATION, Standards, Definitions, Terms and Test Codes for Centrifugal Axial and Propeller Fans. National Assn. of Fan Manufacturers, Inc. 2159 Guardian Bldg., Detroit 26, Mich. 32 pp. 81/2 x 11 in.

The publication includes data previously published in four separate bulletins as well as new tables on size standards for various types of fans and illustrations of revised fan arrangements. Covered in the booklet are classification of air moving equipment, standards, terms and definitions used by the fan industry and standard codes for air and sound measurements.

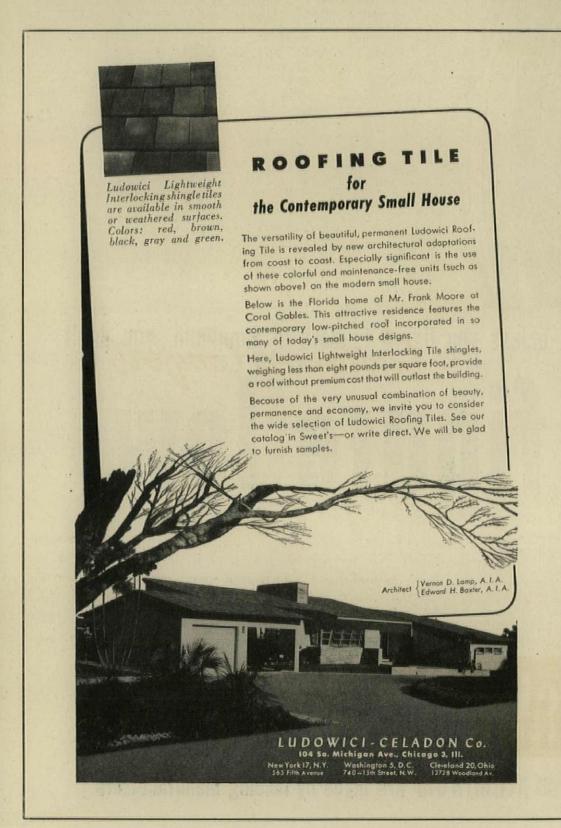
PAINTS. Coro-Gard Protective Coatings. Minnesota Mining & Manufacturing Co., 900 Fauqier St., St. Paul 6, Minn. 8 pp. 334 x 9 in.

Samples of five base and 23 top coatings for metal are contained in this folder. These sprayable coatings are said to provide protection against chemical or salt-water corrosion. Flat and glossy finishes in a variety of colors are included in the top coats as well as four antiskid coats which contain a non-sparking aggregate.

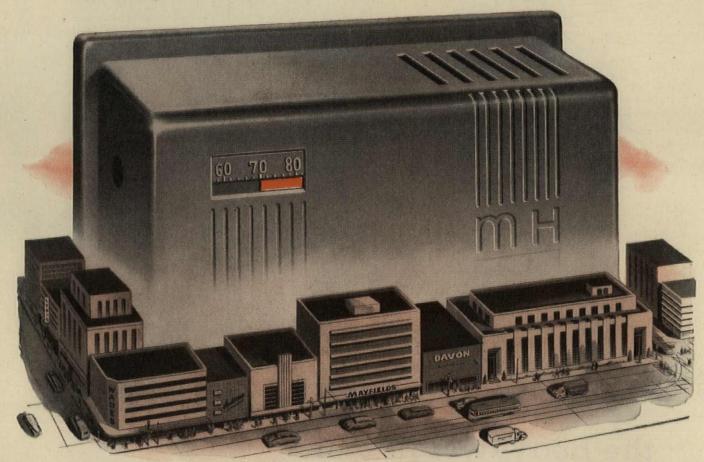
GLAZING. Coolite Heat Absorbing Glass. Mississippi Glass Co., 88 Angelica, St. Louis 7, Mo. 12 pp. 81/2 x 11 in.

Suitable for new construction, modernization and replacement work, Coolite is described as a glass that reduces the transmission of solar heat radiation (thus decreasing room temperatures) and also controls daylight penetration so that only softly diffused working light is admitted. Typical applications in factories and schools are illustrated and test results covering the heat absorbing and glare reducing properties of the glass are presented. In addition to heat and light transmission tables the publication gives complete specification data.

(Continued on page 220)



As important as the buildings...



... the controls that give Customer Comfort

THE room thermostat illustrated above is smaller than your hand—but we're showing

It big to dramatize its importance. The progressive owners of shops and office buildings realize that personal comfort is necessary to attract customers and keep tenants satisfied. Air conditioning, for example, is no longer a luxury; it is just plain good business. So these

owners are installing the most modern heating, ventilating and air conditioning equipment. Whether you specialize in commercial buildings or in homes, you know that no heating

or air conditioning system can be better than the controls that regulate it. For more than 65 years, Minneapolis-Honeywell has been the leader in developing automatic controls and control systems. Honeywell-trained engineers are available for consultation on any



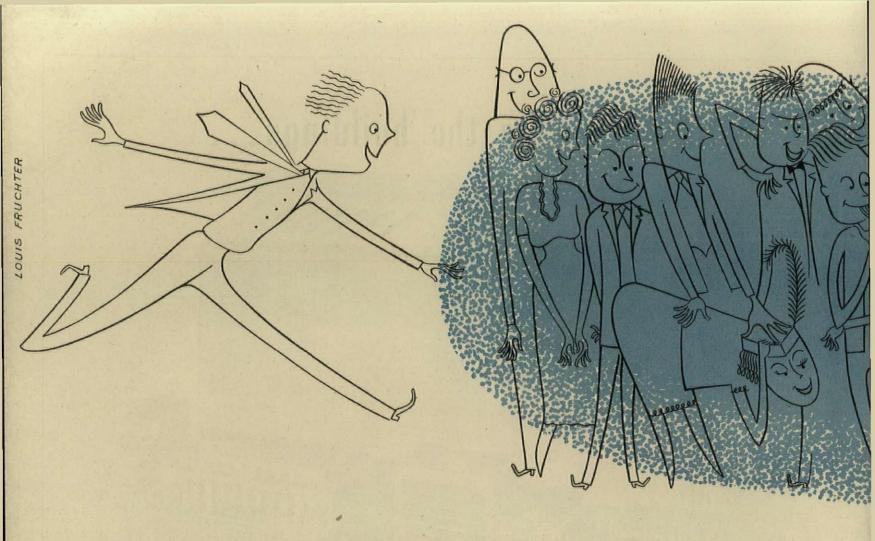
of your control problems. Just contact the Honeywell office in your city or write to Minneapolis-Honeywell, Minneapolis, Minn.

Honeywell FIRST IN CONTROLS

ELECTRIC, PNEUMATIC, ELECTRONIC CONTROLS:

For home heating • for hotels and apartments • for schools and hospitals • for commercial heating and air conditioning • for refrigeration • for industrial process • for aviation • for rail, highway and water transportation.

77 BRANCHES FROM COAST TO COAST WITH SUBSIDIARY COMPANIES IN: TORONTO . LONDON . STOCKHOLM . AMSTERDAM . BRUSSELS . ZURICH . MEXICO CITY



the heavyweights of light construction

All other things being equal, a man's subscription to a magazine is a thoroughly private affair—and it makes no difference to him who else gets the same information at about the same time.

In building, however, all things are far from equal—and the question of who else reads the FORUM is peculiarly significant to you.

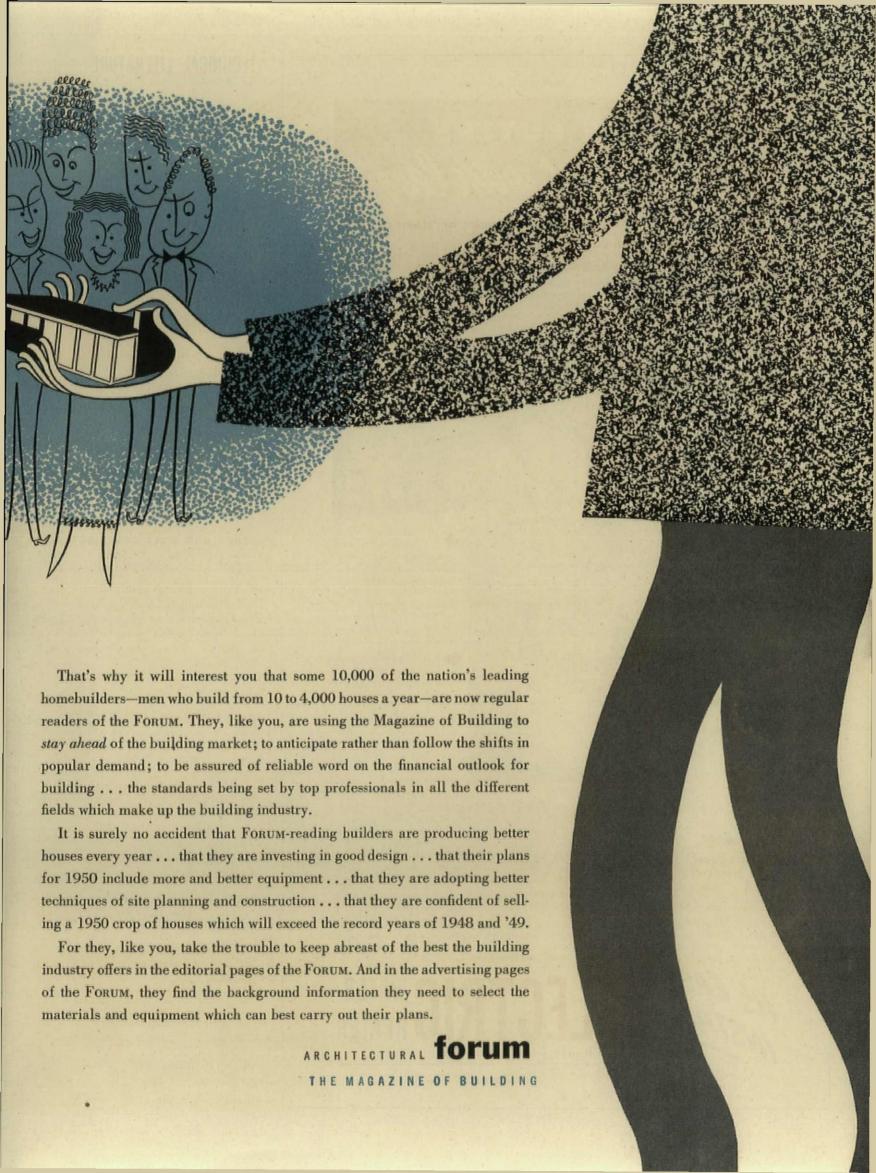
For example, consider what it means to you that the FORUM is read by the heavyweights of light construction, the merchant builders who are putting up five out of every six of America's new houses today.

-Isn't it important to you architects that these builders should have a healthy respect for good design?

—Isn't it important to you lenders that they should build the kind of houses for which buyers will want to keep up payments?

-Isn't it important to you dealers and distributors that these builders should put their faith in top-quality, brand-name equipment?

—And isn't it important—even to you who concentrate on non-residential building—that today's home builders should be putting new values into their houses that may well sustain the demand after shortages and boom-times are over? For building begets building—and home building starts a long chain reaction of schools, stores, hospitals, offices and plants.





says Mr. Fred S. Lippert, who Equips his Homes with Electric Water Heaters

Ask this builder, who is currently building eight houses at University Park in the Washington, D.C., area. He considers Electric Water Heaters and other electric equipment a "must." National sales and survey figures show a constantly increasing demand for Electric Water Heaters along with other electric equipment. Progressive builders everywhere are taking advantage of this trend.





homes have 3 and 4 bedrooms, with 1½ or 2 bathrooms, and one bedroom on the first floor. They sell in the \$18,000 to \$30,000 price range, and Mr. Lippert is never at a loss to find a buyer.

Each kitchen has an electric sink and dish-washer among its numerous electrical household appliances, and an Electric Water Heater assures ample, automatic hot water supply. Kitchens are large enough to accommodate an eating area if desired.

Electric Water Heaters are completely automatic, clean, dependable in operation. They save money for builder and customer alike. Installation can be made anywhere—no flue or vent. This shortens hot water lines, cuts piping cost, prevents water waste. Fully-insulated storage tank for extra economy of operation. Safety assured by all electric, dependable temperature control.

ELECTRIC WATER HEATER SECTION

National Electrical Manufacturers Association • 155 East 44th Street, New York 17, N. Y.

ALLCRAFT · BAUER · BRADFORD · CRANE-LINE SELECTRIC · FAIRBANKS-MORSE · FOWLER · FRIGIDAIRE GENERAL ELECTRIC · HOTPOINT · HOTSTREAM · JOHN WOOD · KELVINATOR · LAWSON · MERTLAND MONARCH · NORGE · PEMCO · REX · RHEEM · SEPCO · A. O. SMITH · THERMOGRAY · TOASTMASTER · UNIVERSAL · WESTX · WESTINGHOUSE

It'S EASY to

IT'S ELECTRICI

ELECTRIC WATER HEATER

in a house wired for an Electric Range!

TECHNICAL LITERATURE

FLOORING, Design-a-Floor Kit. Sloane-Blab Corp., 295 Fifth Ave., New York 16, N. Y. 26 | 6 x 8 in. 25 cents.

Architects can help clients visualize co schemes for kitchen, bathroom and playrovery simply with this unique kit. The room o line pages may be colored as desired (even pecil crayons are supplied) and three transpare overlay sheets placed over them or over the st gested color schemes printed in the kit. D grams of basic floor patterns and pictur swatches of Sloane plastic, asphalt and linolet floor coverings are also contained in the fu color booklet.

FLOORING. Hako Asphalt Floor Tile. Hac meister, Inc. 2332 Forbes St., Pittsburgh, F 4 pp. 81/2 x 11 in.

Thirty colors (including six recently added pas shades) of the manufacturer's factory wax asphalt tile are clearly reproduced in chart for Some are illustrated in floor designs and actuinstallation pictures. Instructions on how specify Hako tile and details on sub-floor quirements are also published here.

FLOOR AND WALL COVERINGS. Picture You Floors and Walls in Tile-Tex. Flintkote Co., Til Tex Div., Chicago Heights, III. 11 x 8½ in. 18;

Full color photographs illustrate good looking residential applications of Tile-Tex products this attractive booklet. Design suggestions of foyer, bedroom and playroom floors are present in addition to suggested kitchen and bathroom installations. Color charts of the company asphalt tile and plastic asbestos floor and wittle are also included.

GARAGE DOORS. Calder WedgeTight Overhe Sectional Doors. Calder Mfg. Co., 630 N. Prince S Lancaster, Pa. 8 pp. 8½ x 11 in.

A complete catalogue of the firm's overheadoors, the publication contains descriptions five types of residential doors and special doo for commercial applications. It also covers complete specifications and information necessary for detailing installations of these doors, Calder radio controlled door operators are also discribed.

PAINT. Painting with Aluminum. Aluminum C of America, 661 Gulf Bldg., Pittsburgh 19, P 32 pp. 8½ x 11 in.

This comprehensive brochure explains how various types of aluminum paint can be used to be advantage. It emphasizes that applications of these metallic finishes fall into three general classifications: metal, concrete, masonry and and other nonabsorbent surfaces; weather exposed wood; and interior heated surfaces and decorative uses. Good results can be achieved the publication points out, only by using the proper type for each particular job; i.e., hardrying, rich in oils, or low viscosity.

QUALITY CONTROLLED assures enduring beauty

MA-TI-CO SPECIFICATIONS

COLORS-STANDARD ASPHALT TILE

1/4" 3/16" Gauges

Full Ca	rtons Only	3. x 3., Sites 48 , 2\10
STYLE	COLOR NO.	COLOR DESCRIPTION
Group A	A 501 A 503	Black (Both available in 18" x 24" Borderstock.)
Group B Marbleized	B 401 B 402 B 403 B 404 B 405 B 406	Black with White Marble Black with White and Green Marble Black with White and Red Marble Brittany Red with Gold and Red Marble Brittany Red with White and Red Marble Brittany Red with White and Gold Marble
Group C Marbleized	C 420 C 422 C 423 C 424 C 425 C 426 C 427 C 428	Red with Gold and White Marble Grey with White; Black Marble Beige with White; Brittany Red Marble Green with White Marble Tan with White and Brittany Red Marble Mocha with Brittany Red and White Marble Battleship Grey with Black and White Marble Light Green with Green and White Marble
Group D Marbleize	D 100 D 101 D 102 D 103 D 104 D 105 D 106 D 107	Ivory with Red and Gold Marble Light Blue with White Marble White with Green Marble White with Black Marble White with Blue Marble Yellow with Tan and White Marble Bright Red with White Marble Yellow

COLORS-PETAL TONES

COLOR NO.	COLOR DESCRIPTION
P 201	Petal Tone Yellow
P 202	Petal Tone Rose
P 203	Petal Tone Blue
P 204	Petal Tone Green
P 205	Petal Tone Paisley

GREASEPROOF TILE

Manufactured in all B group and C420, C423, C424. Full cartons only. 9" x 9" sizes. 1/8", 3/16" gauges.

PACKING DATA

For Standard and Greaseproof Tile

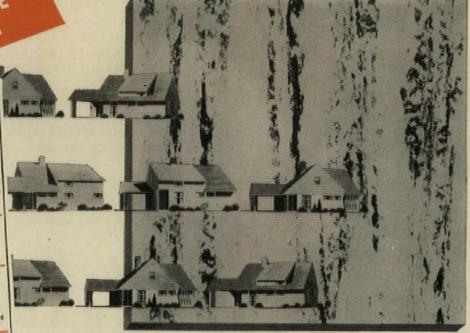
	1/	8"	3/	16"	
Size	Pieces Per Carton	Sq. Ft. Per Carton	Pieces Per Carton	Sq. Ft. Per Carton	Weight Per Carton
9 x 9 12 x 12 18 x 24 1 x 18 1½ x 18 2 x 18	144	45 45 54 27 27 27 24	54 30 12 144 96 64	30.375 30 36 18 18 16.3	55 lbs. 55 lbs. 65 lbs. 33 lbs. 33 lbs. 33 lbs.

Wire or write for complete details and Matico sample color chart, if there is no Matico distributor near you.

GET TO KNOW MA-TI-CO!

Write today for Ma-Ti-Co literature and sample color chart!









that's why Levitt



specify 3½ MILLION Sq. FEET of MA·TI·CO in 1950

Levitt selects Ma-Ti-Co for the flooring of every room in 4428 luxury and economy-type homes in Levittown and Roslyn, Long Island — additional proof of Ma-Ti-Co's high quality.

A special Ma-Ti-Co formulation helps reduce costs through fast, easy, quick-seating installation... assures greater resistance to time and wear... permits a complete line of rich, clear colors — in solid tones and marbleized patterns — including 5 new pastel "Petal Tones." Precision testing maintains a constant high quality that meets Federal specifications for flexure, indentation, curling and impact.

Whatever your flooring problems—large commercial or institutional installations, apartments or homes—specify MA-TI-CO's proven quality for best results.

For details, consult our insert in Sweet's File Architectural Section 13.

Department 66

MASTIC TILE CORPORATION OF AMERICA

Factories: Newburgh, N. Y. . Long Beach, Calif.

46

FLUSH WALL Built In Radios Sell Homes

Says Robert Gerholz, Past President of N.A.H.B.

"We use built-in radios to please prospective clients and to help sell our houses because we feel that the conventional radio has no more place on the work benches of our ultra-modern kitchens than it would have on the front seat of our automobiles."

- CONVENIENT TO OPERATE.
- RADIO IS 5-TUBE AC-DC.
- PANELS TO MATCH COLOR SCHEME OF ROOM.
- WALL BECOMES PART OF SPEAKER-BAFFLE, GIVING CONSIDERABLE IMPROVEMENT IN TONE.
- FOR KITCHEN, BATHROOM, PLAYROOM, BEDROOM, ETC.
- FOR ARCHITECTS TO SPECIFY IN NEW HOMES.
- FOR ELECTRICIANS TO INSTALL.
- FOR BUILDERS . . . A NEW CONVENIENCE.
- APPROVED BY UNDERWRITERS LABORATORIES.

LOW COST . . . retail price only \$3495 plus installation

Special Trade Net Prices on Request Panels Extra: Plain Masonite \$2.45 . . . Plastic Colors \$4.45

- 5 Tube AC-DC Superheterodyne with

 Patented adjustable slotted hinges attached.

 Steel box with single receptacle ½" K.O. Furnished.

 Size of steel box 6½" x 95%" x 37%" deep.

 Antenna wire 20' included.

 Lleensed by R.C.A. & Hazeltine.

 Approved by Underwriters' for "Built-in installation".

 Patented for adjustable built-in Flush Wall Mounting.

 Panels in Plastic and Plain Masonite.

 Plastic Panels sold separately in following colors: lvory Mandarin Red White Burnt Amber Mottled Royal Blue Emerald Green

 Panel size 7-13/16" x 11-7/16".

Your electrician will install FLUSH WALL for the same cost as a Regular Outlet!





WALL RADI

31 CLINTON STREET

NEWARK 2, N. J.

LOW MATERIAL COST

SINK-ERATOR

is the ONLY food waste disposer conceived and engineered by an Architect* to meet the exacting requirements of the building professional.

Note compact streamlined smoothness-no projections - so easy to keep clean.

Unlimited Capacity

Safe continuous feeding, during operation eliminates stop-and-start nuisance where capacity is restricted in units which operate only when cover is locked.

Alternating Shredder

Exerts two-way cleansing, overcomes clogging, doubles life of shredder and provides self-sharpening action.

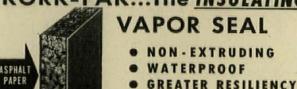
Write for catalog or see Sweet's files— 24a/16 Architectural—6b/13 Builders

FRATO

*John W. Hammes, Registered Architect... President, In-Sink-Erator (founded 1938).

IN-SINK-ERATOR MANUFACTURING CO. RACINE, WISCONSIN

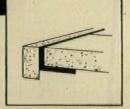
STOP HEAT LOSS with KORK-PAK...The INSULATING



and ASPHALT

DOUBLE LAYER ASPHALT PAPER

Install KORK-PAK at the footing joint to prevent heat loss through concrete floor slabs in basementless houses and structures on grade - get maximum joint filling efficiency PLUS the highest insulating



factor of any similar material. KORK-PAK'S low cost and easy handling make it ideal for many applications such as Sill Vapor Seal, Glass Building Block Seal, Joint Filler, etc., in every type of construction.



Write for complete details, illustrated circular and samples.

SERVICISED PRODUCTS CORP. 6051 W. 65th ST., CHICAGO 38, ILL.



"We are 100% sold on all the advantages offered by Kaylo Roof Tile" -ATLANTA PAPER CO.

The Atlanta Paper Company specified Kaylo Insulating Roof Tile for the 214,000-sq. ft. roof area of its new manufacturing plant. President Arthur L. Harris tells why:

"Kaylo Tile gives us a roof which insulates, won't burn or rot, is lightweight, yet strong.

"Of primary importance to us is the fact that our Kaylo Roof Deck resists water and moisture damage under the high humidity conditions which accompany our manufacturing operations.

"We are 100% sold on all the advantages offered by Kaylo Roof Tile."

Many industrial and commercial firms have found the answer to their roofing needs in Kaylo Insulating Roof Tile-providing a combination of advantages offered by no other single roofdeck material.

INSULATING ROOF

OWENS-ILLINOIS GLASS COMPANY Kaylo Division . Toledo 1, Ohio

SALES OFFICES: Atlanta • Boston • Buffalo • Chicago • Cincinnati • Houston • Minneapolis New York • Oklahoma City • Pliladelphia • Pittsburgh • St. Louis • Toledo • Washington

WHAT IS KAYLO ROOF TILE?

Kaylo Insulating Roof Tile is made of a lightweight, inorganic material—reinforced with welded wire mesh to provide structural strength more than adequate for typical roof loads.

Each 23-lb. tile is a dimensionally uniform 18"x36"—can be sawed, cut and nailed with standard tools. Kaylo Tile is easily laid on steel subpurlins or nailed to wood joists—on either pitched or flat roofs.

The Kaylo deck may then be covered with any conventional roofing material.

Send Coupon for Kaylo Roof Tile Sample and Literature

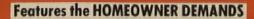


OWENS-ILLINOIS GLASS COMPANY Kaylo Division, Dept. N-11, Toledo 1, Ohio

Gentlemen: Please send me a Kaylo Roof Tile sample and literature.

FIRM.....

CITY.....STATE.....



for HOT WATER ECONOMY and EFFICIENCY-



WATER **HEATERS**

HAVE THEM ALL!

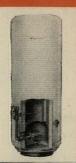
- Precision engineering
- Fiberglas insulation
- Cathodic protection (optional)
- Zinc-clad tanks
- Adjustable thermostats
- Baffle for best efficiency
- Advanced design
- Gleaming enameled casing
- **Smart appearance**



- **Chromalox** immersion elements GAS
- **Robertshaw Unitrol**
- 100% Automatic safety pilot
- 350 lb. test tank



CUT-AWAY VIEW



L. O. KOVEN & BRO., INC. 154 OGDEN AVENUE, JERSEY CITY 7, N. J. PLANTS: Jersey City, N. J.

BEAUTY ECONOMY EFFICIENCY PERFORMANCE

100 HOUSES A DAY

(Continued from page 134)

The job of selling the 17,000 houses now abuilding of Los Angeles' Lakewood subdivision was assigned by th builders to one of the town's biggest realtors, Roderic J. Tichenor. Backed by a \$600,000 a year ad budget an a staff of 90 salesmen and clerks, Salesman Tichenor s far has kept house sales at Lakewood well ahead o

He fervently hopes to keep things this way. To make sure that he does, he has surrounded house-hunting Lo Angeles citizens with a steady barrage of Lakewood pro motion. Says he: "I want them to have Lakewood for breakfast, lunch and supper . . . and then take it to be

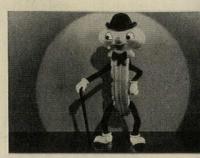
with them." In the two months since he started hawking his wares, he has almost succeeded in doing just that. A Los Angeleno will get his first daily infusion of Lakewood when he opens his morning paper and one



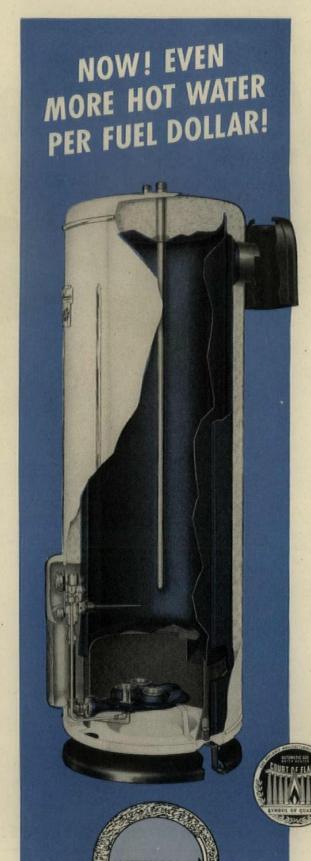
of its splashy ads zooms up from the pages. (Total a lineage this year will be over one million lines in L. A newspapers.) As he drives to work, he is bound to se one of dozens of Lakewood billboards decked out in th project's "official" colors-orange and blue. He migh also see'a group of small fry playing with "Lakewood inscribed balloons (100,000 distributed in the past tw months) on their way to school. If he flicked on his radio the chances are that he would tune in on one of the 10 daily spot announcements that Tichenor sponsors. Durin the day, if he chose his company wisely, he might be abl to avoid hearing any reference to the big project, but i the evening, if he listened to radio or television, he woul find it difficult to miss a Lakewood commercial larded i between his favorite programs. All this is arranged s that, one weekend afternoon, he will say to his wife: let' go out and take a look at those Lakewood houses.

Television looms large as a Lakewood sales weapor Almost a fifth of Lakewood's ad budget will go for TV spot announcements. Each "spot" revolves around a animated clay puppet named "Kenny Key" ("I'm the ke to your future.") who appears on local TV screens a

often as 50 times a day. In a typical one-minute presentation, Kenny will come out, twirl his cane, flick his cigar and then start his pitch about Lakewood. Pictures of the houses are flashed



on the screen, the \$43-and-up monthly payments are also prominently displayed. Kenny then closes his talk with a schematic map in which he shows the route to the Lakewood site.



NEW A.O. SMITH PERMAGLAS GAS
WATER HEATERS feature the exclusive

WALL

- No flue through the tank, no baffles
- New, faster recovery
- Stand-by loss reduced to a minimum
- 7-times-finer temperature control
- More effective heat transfer
- Top inlet and outlet connections

FIRST AGAIN—A. O. Smith takes another great step forward in automatic gas water heater design!

In new Permaglas models, the flue through the tank is eliminated. Instead, hot gases pass across the bottom tank-head into the exclusive new HEETWALL. Hot gases flow upward, at reduced velocity, in a thin sheet of heat that hugs the tank wall. Greater heating surface, plus decreased velocity, produces more heat transfer . . . minimum stack loss . . . minimum stand-by loss. More water heated at less cost—more hot water to meet peak demands.

THAT'S NOT ALL—inside and out the HEETWALL is glasssurfaced steel and, like the famous *Permaglas* tank, it can't rust because glass can't rust. New universal CLUSTER BURNER, too, is glass-surfaced steel . . . with stainless steel cups and ports.

Brass top water connections on standard 8-in. spacing are reversible. Anti-syphon dip tube is easily switched. Rear flue outlet eliminates on-top draft diverter, reduces over-all height by as much as 18 inches. HEETWALL and flue-cap design prevent foreign particles from dropping into combustion chamber.

MORE THAN EVER, no other automatic water heater provides so many features for economical, completely satisfactory hotwater service. There's an A. O. Smith model for every need, backed by the 76-year-old A. O. Smith name and reputation.

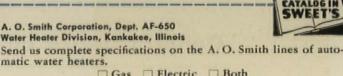
A.O.Smith

AUTOMATIC WATER HEATERS

PERMAGLAS, DURACLAD, MILWAUKEE—three lines of outstanding automatic water heaters



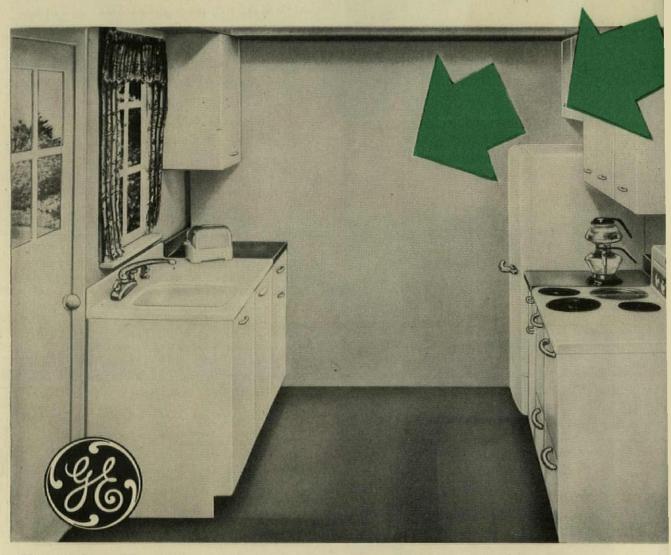
A.O. Smith Dealers
Display
This Emblem



Name		☐ Electric ☐ Both	
irm			
itreet	100 7		
nta.		State	

Atlanta 3 · Boston 16 · Chicago 4 · Dallas 1 · Denver 2 · Detroit 2 · Houston 2 · Los Angeles 14 · Midland 5, Texas Milwaukee 2 · New York 17 · Philadelphia 3 · Phoenix · Pittsburgh 19 · Salt Lake City 1 · San Diego 1 · San Francisco 4 Seattle 1 · Tulsa 3 · Washington 6, D.C. · International Division: Milwaukee 1 · Licensee in Canada: John Inglis Co., Ltd.

Why don't you duplicat

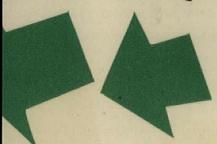


This is the General Electric Kitchen that helped sell so many Talbott homes so fast. Here dishes are washed and doublerinsed automatically . . . there's a 52-gal.water heater . . . plenty of cabinets . . . a Disposall® for food waste . . . a a handsome electric range. Imagine all this "luxury" living a \$8990 house! No wonder 44 houses were sold the first da

General Electric offers you all these advantages:

- Tested merchandising programs that have helped so many other builders enjoy phenomenal sales results.
- The brand of electrical appliances that people prefer to all others.
- Assistance in designing and improving kitch-
- en layouts for your houses.
- One source of supply for matched equipment
 . . . a full line of cabinets and appliances.
- And most important: G-E equipment is world-famous for its dependability! Why not pre-sell your houses the General Electric way?

his sales miracle?



The Talbott Building Company took a hint from another successful builder...produced a sample home with complete General Electric Kitchen... and sold 44 new houses the first day!!

r. Ralph R. Talbott of the Talbott Building Company Itimore, Md., tell you of his experience in his own words: representative of General Electric very graciously in-

representative of General Electric very graciously inus to take a trip over to Washington to have luncheon o look over the prospering G-E development of Brisker ,, outlining how successful that unit had been in selling Kitchens and their houses.

e took the hint and immediately produced a sample here—with complete General Electric Kitchen, and had t & Co. furnish it for us. We advertised it for the first in a Sunday newspaper.

'The results were overwhelming!"

he close of business today we had sold 44 new houses to ilt at Lochearn, and we have every reason to believe that in duplicate this number within the next week.

week later, a total of 71 houses had been sold!)

Ve're glad we installed these splendid General Electric acts in our houses. Without them, we do not believe this miracle would have been possible!"

Other builders had similar experiences!

d you be interested in duplicating Mr. Talbott's sales cle? We sincerely believe you can!

ter all, many other builders throughout the country have similar experiences.

e builder in Massachusetts sold 125 houses in 10 days! A er, Colorado, builder sold 54 G-E equipped houses the first end! A Long Island, N.Y., builder sold 67 General Electric ped houses the first Sunday!

Take this hint as Mr. Talbott did!

Pre-sell your houses by including General Electric Kitchens. Everybody wants all-electric living—and that naturally includes prospects for low-priced houses. Furthermore, of all the electric appliances available, people prefer General Electric! G-E is your best bet.

We shall be glad to offer you the same tested merchandising programs that have helped so many other builders. We'll even assist in designing and improving kitchens layouts for your houses if you wish!

Get complete facts about the G-E "Kitchen Package" through your local General Electric distributor, or write to the Home Bureau, General Electric Company, Bridgeport 2, Conn.



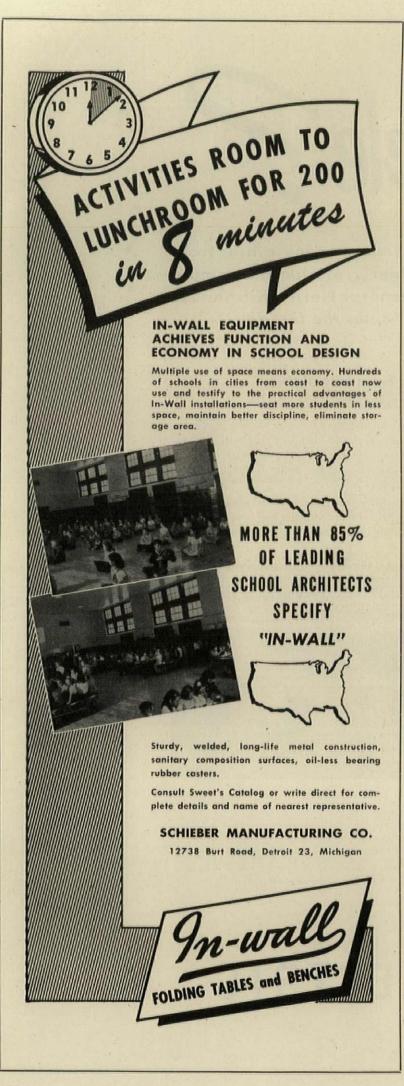
This Talbott House offered people what they'd been looking for—all-electric living for only \$8990.

You'll be glad to know, too, that the General Electric Kitchen costs the buyer as little as \$4.80 a month extra when it is included in the long-term mortgage.

Remember: 44 Talbott houses were sold the first day! Why not let General Electric help sell *your* houses faster, too?

You can put your confidence in -

GENERAL ELECTRIC



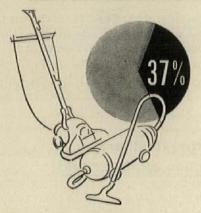
ATTENTION MANUFACTURERS'

AGENTS

The Architectural FORUM is compiling a new list of Dealers, Distributors and Manufacturers' Agents who are interested in adding new lines (building products, materials, specialties, household appliances, etc.). This list, when completed, will be available on request to interested manufacturers.

If you would like to be listed please write and be sure to tell us what territory you cover and what types of products you would like to handle.

Write: George P. Shutt
Director of Advertising
Architectural FORUM
9 Rockefeller Plaza
New York 20, New York



37% of all
VACUUM CLEANERS
bought in the
U. S. in six months
were bought by
LIFE families



(From a study by the Market Research Company of America)

GUSTUM-UES/GH Each Floor Plan

with Exclusive

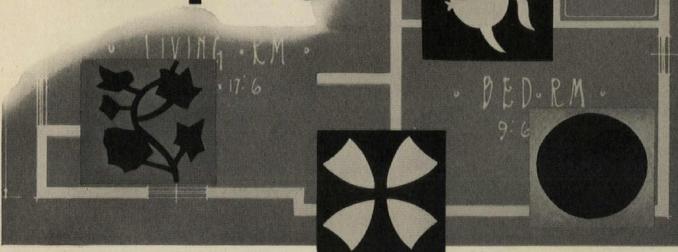
THEMETILE

only available in

RUBBER TILE

by the makers of KENTILE.





AVAILABLE NOW in all these colors and sizes

9x9x1/8"
India Black 420
Waulsort 422
Onyx 423
St. Amande 424
Bardilla 425
Piastra 426
Connemara 427
Pavonazzo 428
Rouge Royal 429
Medoux 430
Vert Maurin 431
New England 432
Lilas 433
Brocatelle 437
Emperor's Red 438
18x36x1/s"
Black 420
Onyx 423
Connemara 427
Rouge Royal 429

F	E	-	e de	200	E	m	100	RIF	•	
Black		- 7-	9		5x					420
Red.										

White 435

Cove Base 4x42x1/8" Black, Onyx, Connemara, Rouge Royal

Exclusive 9x9x1/8" Colorful ThemeTile

Fish Dots Petals Spoon & Fork

Write for catalog showing full color line and made to order sizes

No other Rubber Tile offers you these decorative, low-cost, factory-made ThemeTile inserts. They are mass produced and accurately cut in stock 9" x 9" sizes so they are installed as quickly as standard rubber tile-no extra labor is involved. No other rubber tile gives you this opportunity to design distinctive, individual floors, complete with decorative themes that set your rooms apart...floors custom-made for the room and purpose they are to serve. Ivy ThemeTile alone, for example, can be used as border, traffic lanes, eye-directors in exclusive flower shops... not to mention its ideal uses in halls, foyers, dining rooms or lovely kitchens of fine homes.

Rubber Tile by the makers of Kentile offers your clients every practical advantage of long wearing "cushioned beauty" and easy maintenance. Dirt and moisture cannot penetrate...it resists chipping, cracking, marring...does not support combustion... will not dry out or become brittle through years of use.

DAVID E. KENNEDY, INC.

58 Second Avenue, Brooklyn 15, New York Kentile

> Kencork • Rubber Tile

Russwin adjustable anti-friction pivot hinges

... exclusive construction floats heavy doors...up to 350 lbs.

radial load

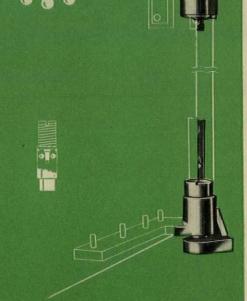
carried over large projected area by hardened steel roller bearings

thrust load

carried by precision ball, bearings of roundness guaranteed within .000025 tolerance.

weight adjustment

on intermediate and bottom hinges for precise, distribution of weight. Simple screw adjustment, easily accessible.



Russwin Anti-Friction Pivot Hinges are available in various combinations. Russell & Erwin Division, The American Hardware Corp., New Britain, Conn.



SPECIFICATION AND

The advertising pages of Forum are the recognized market place for those engaged in building. A house or any building could be built completely of products advertised in The Forum. While it is not possible to certify building products, it is possible to open these pages only to those manufacturers whose reputation merits confidence. This The Forum does.

whose reputation merits confidence. This THE FORUM does	š.
Adams & Westlake Company, The	
Airtemp (Division of Chrysler Corp.)	8
Altec Lansing Corporation 4	6
Aluminum Company of America (Alcoa)	2
American Brass Company, The	10
American Hardware Corp., The (Russell & Erwin Division)	
American Structural Products Company American Tile & Rubber Co	6
Architectural Forum	9
Armstrong Cork Company	9
tion)	9
Avco Manufacturing Corporatioi (Lycoming-Spencer Divi-	4
Baker Refrigeration Corporation 6	0
Bendix Home Appliances, Inc	8 0
Bolta Company, The	
Borg-Warner Corporation (Norge Division) 20	
Bryant Heater Division (Affiliated Gas Equipment, Inc.) 3	22
Cabot Samuel Inc	7
Cambridge Tile Manufacturing Company, The Cover I Canvas Awning Institute, Inc., The 19	1 2
Carr, Adams & Collier Company 5 Carrier Corporation	5
Case, W. A., & Son Mfg. Co	
Cedar Rapids Block Co. (Dur-O-Wat Division) 19 Celotex Corporation, The 16	6
Chase Brass & Copper Co., Inc	8
Church, C. F., Mfg. Co	5
Coleman Company, Inc., The 5	9
Columbia Mills, Inc., The	0
Crawford Door Company 7	7
Croft Steel Products, Inc. 21 Crosley Division (Avco Manufacturing Corporation) 80,8 Curtis Companies 19	1
Cyclotherm Corporation 18	7
Davidson Plywood & Lumber Co. 19 Day-Brite Lighting, Inc. 19	3
Deco Sales Division (U. S. Plywood Corp.) 4 Di-Noc Company, The 4 Douglas Fir Plywood Association 176, 17	9 2
Douglas Fir Flywood Association 176, 17 Dunbar Furniture Manufacturing Company 5 Dunham, C. A., Company 15	2
Dur-O-Wal Division (Cedar Rapids Block Co.) 19	16
Dwyer Products Corporation	
Facing Tile Institute 2	3
Fiat Metal Manufacturing Company 3	0
Fleet of America, Inc 2	6
Flush Wall Radio Company 22	
Follansbee Steel Corp 17	
General Electric Company	17
General Motors Corporation (Frigidaire Division)	9
Granite City Steel Company	6
Great Lakes Steel Corp. (Stran-Steel Division) 4 Grover Company, The	5
Hachmeister-Inc	7
Hall-Mack Company 3 Hauserman, E F. Company, The Opp. 1 Haws Drinking Faucet Co. 26	6
Homasote Company 20 Hood Rubber Company 21	18
Independent Lock Company (Lockwood Hardware Mfg. Co.	
Ingersoll KoolShade Storm-Shade Division (Borg-Warner	72
In-Sink Erator Manufacturing Company 22	16
Insulite Division (Minnesota and Ontario Paper Company) 57, 21	
International Nickel Company, Inc., The	3 8

BUYING INDEX

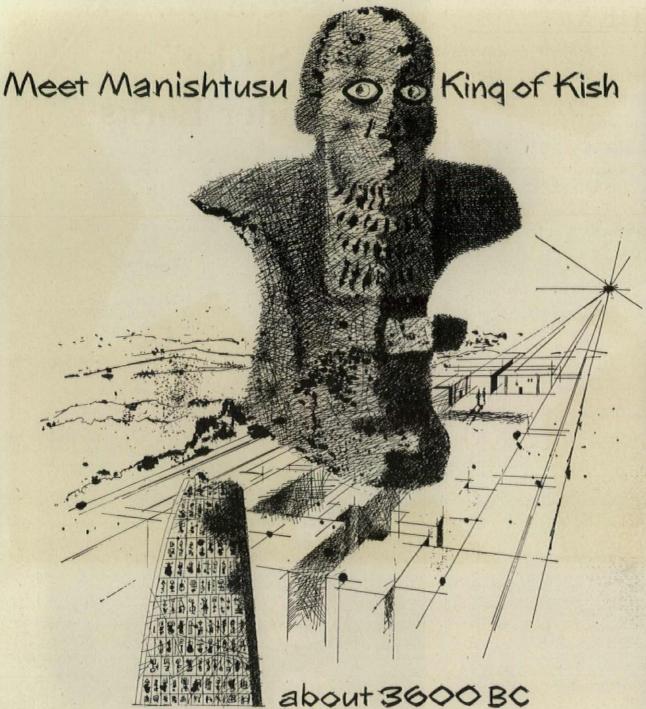
Johns-Manville	
	179
Johnson, S. T. Co	204
Keasbey & Mattison Company	1
Kelvinator Division (Nash-Kelvinator Corp.)	229
Kewanee Boiler Corporation	70 68
Koppers Company, Inc	65
Koven, L. O., Bro., Inc. Kwikset Locks, Inc. (Petko Industries, Inc.)	224
Kwikset Locks, Inc	145
Leader Electric Manufacturing Corporation	196
Libbey-Owens-Ford Glass Company	79
Life Magazine Lockwood Hardware Mfg. Co. Division (Independent Lock	228
Company) Ludman Corporation (Auto-Lok Aluminum Awning Win-	. 72
dows)	199
Ludowici-Celadon Company Lycoming-Spencer Division (Avco Manufacturing Corp.)	216 79
Masonite Corporation	169
Mastic Tile Corporation of America	198
Metal Tile Products, Inc	204
Minneapolis-Honeywell Regulator Company	
Mississippi Glass Company	214
Modine Manufacturing Company	171
Morrison Steel Products, Inc	214 20
Nash-Kelvinator Corp. (Kelvinator Division)	8
National Electrical Manufacturers Association	164
National Rubber Machinery Co., The National System of Garage Ventilation, The	170
National System of Garage Ventilation, The	67
New York Wire Cloth Co. Nichols Wire & Aluminum Company	208
Norge Division (Borg-Warner Corporation)	209
North Carolina Granite Corp	154 197
Otis Elevator Company	39
Overhead Door Corporation	183
Owens-Corning Fiberglas Corporation	186
Owens-Illinois Glass Co. (Kaylo Division)	223
Petko Industries, Inc. (Kwikset Locks, Inc.)	152
Porete Mfg. Co	210
Powers Regulator Co., The	214
Raymond Concrete Pile Company	73
Remington Rand	191
Revere Copper and Brass, Inc. Reynolds Metals Company	163
Richards-Wilcox Mfg. Co	
Daddia Dlywood Corn	34
Roddis Plywood Corp,	34 58 43
Rohm & Haas Company	58 43 143
Rohm & Haas Company Rowe Manufacturing Company D. O. W. Selec Company	58 43 143
Rohm & Haas Company Rowe Manufacturing Company R. O. W. Sales Company Russell & Erwin Division (The American Hardware Corp.)	34 58 43 143 157
Rohm & Haas Company Rowe Manufacturing Company R. O. W. Sales Company Russell & Erwin Division (The American Hardware Corp.) Russell, F. C., Company, The	34 58 43 143 157 , 231 187
Rohm & Haas Company Rowe Manufacturing Company R. O. W. Sales Company Russell & Erwin Division (The American Hardware Corp.) Russell, F. C., Company, The Sargent & Company Schieber Mfg. Co.	34 58 43 143 157 , 231 187 , 151 228
Rohm & Haas Company Rowe Manufacturing Company R. O. W. Sales Company Russell & Erwin Division (The American Hardware Corp.) Russell, F. C., Company, The Sargent & Company Schleber Mfg. Co. Security Mfg. Co. Servel, Inc. 180	34 58 43 143 157 , 231 187 , 151 228 76
Rohm & Haas Company Rowe Manufacturing Company R. O. W. Sales Company Russell & Erwin Division (The American Hardware Corp.) Russell, F. C., Company, The Sargent & Company Schleber Mfg. Co. Security Mfg. Co. Servel, Inc. 180	34 58 43 143 157 , 231 187 , 151 228 76
Rohm & Haas Company Rowe Manufacturing Company R. O. W. Sales Company Russell & Erwin Division (The American Hardware Corp.) Russell, F. C., Company, The Sargent & Company Schieber Mfg. Co. Security Mfg. Co. Servel, Inc. Servicised Products Corp. Shepard Elevator Company Sisalkraft Co., The	34 58 43 143 157 , 231 187 , 151 228 76 , 181 222 196
Rohm & Haas Company Rowe Manufacturing Company R. O. W. Sales Company Russell & Erwin Division (The American Hardware Corp.) 230 Russell, F. C., Company, The Sargent & Company Schieber Mfg. Co. Security Mfg. Co. Security Mfg. Co. Servel, Inc. Servicised Products Corp. Shepard Elevator Company Sisalkraft Co., The	34 58 43 143 157 , 231 187 , 151 228 76 , 181 222 196 60 21
Rohm & Haas Company Rowe Manufacturing Company R. O. W. Sales Company Russell & Erwin Division (The American Hardware Corp.) Russell, F. C., Company, The Sargent & Company Schieber Mfg. Co. Security Mfg. Co. Security Mfg. Co. Servel, Inc. Servicised Products Corp. Shepard Elevator Company Sisalkraft Co., The Sloane-Blabon Corporation Smith. A. O., Corporation	34 58 43 143 157 , 231 187 , 151 228 76 , 181 222 196 60 21 225
Rohm & Haas Company Rowe Manufacturing Company R. O. W. Sales Company Russell & Erwin Division (The American Hardware Corp.) 230 Russell, F. C., Company, The Sargent & Company Schieber Mfg. Co. Security Mfg. Co. Security Mfg. Co. Servel, Inc. Servicised Products Corp. Shepard Elevator Company Sisalkraft Co., The Sloane-Blabon Corporation Smith, A. O., Corporation Smith, H. B. Company, The Standard Dry Wall Products, Inc. Stran-Steel Division (Great Lakes Steel Corp.)	34 58 43 143 157 , 231 187 , 151 228 76 , 181 222 196 60 21 225 22 207 47
Rohm & Haas Company Rowe Manufacturing Company R. O. W. Sales Company Russell & Erwin Division (The American Hardware Corp.) Russell, F. C., Company, The Sargent & Company Schieber Mfg. Co. Security Mfg. Co. Security Mfg. Co. Servei, Inc. Servei, Inc. Shepard Elevator Company Sisalkraft Co., The Sloane-Blabon Corporation Smith, A. O., Corporation Smith, H. B. Company, The Standard Dry Wall Products, Inc. Stran-Steel Division (Great Lakes Steel Corp.) Structural Clay Products Institute	34 58 43 143 157 , 231 187 , 151 228 76 , 181 222 196 60 21 225 22 20 77 33
Rohm & Haas Company Rowe Manufacturing Company R. O. W. Sales Company Russell & Erwin Division (The American Hardware Corp.) Russell, F. C., Company, The Sargent & Company Schieber Mfg. Co. Security Mfg. Co. Security Mfg. Co. Servel, Inc. Servicised Products Corp. Shepard Elevator Company Sisalkraft Co., The Sloane-Blabon Corporation Smith, A. O., Corporation Smith, H. B. Company, The Standard Dry Wall Products, Inc. Stran-Steel Division (Great Lakes Steel Corp.) Structural Clay Products Institute Sunroc Refrigeration Company Taco Hesters, Inc.	34 58 43 143 157 , 231 187 76 60 60 21 225 22 207 47 32 214 202
Rohm & Haas Company Rowe Manufacturing Company R. O. W. Sales Company Russell & Erwin Division (The American Hardware Corp.) 230 Russell, F. C., Company, The Sargent & Company Schieber Mfg. Co. Security Mfg. Co. Security Mfg. Co. Servel, Inc. Servicised Products Corp. Shepard Elevator Company Sisalkraft Co., The Sloane-Blabon Corporation Smith, A. O., Corporation Smith, H. B. Company, The Standard Dry Wall Products, Inc. Stran-Steel Division (Great Lakes Steel Corp.) Structural Clay Products Institute Sunroc Refrigeration Company Taco Heaters, Inc. Timber Structures, Inc.	34 58 43 143 157 , 231 187 76 60 60 21 225 22 207 47 33 214 202 210
Rohm & Haas Company Rowe Manufacturing Company R. O. W. Sales Company Russell & Erwin Division (The American Hardware Corp.) Russell, F. C., Company, The Sargent & Company Schieber Mfg. Co. Security Mfg. Co. Security Mfg. Co. Servel, Inc. Servicised Products Corp. Shepard Elevator Company Sisalkraft Co., The Sloane-Blabon Corporation Smith, A. O., Corporation Smith, H. B. Company, The Standard Dry Wall Products, Inc. Stran-Steel Division (Great Lakes Steel Corp.) Structural Clay Products Institute Sunroc Refrigeration Company Taco Heaters, Inc. Timber Structures, Inc. Time Magazine	34 58 43 143 157 . 231 1877 . 2314 2222 196 600 21 225 22 2077 477 33 214 202 210 50 51
Rohm & Haas Company Rowe Manufacturing Company R. O. W. Sales Company Russell & Erwin Division (The American Hardware Corp.) Russell, F. C., Company, The Sargent & Company Schieber Mfg. Co. Security Mfg. Co. Security Mfg. Co. Servel, Inc. Servicised Products Corp. Shepard Elevator Company Sisalkraft Co., The Sloane-Blabon Corporation Smith, A. O., Corporation Smith, H. B. Company, The Standard Dry Wall Products, Inc. Stran-Steel Division (Great Lakes Steel Corp.) Structural Clay Products Institute Sunroc Refrigeration Company Taco Heaters, Inc. Timber Structures, Inc. Time Magazine Trane Company, The Trane Company, The Trinity Division (General Portland Gement Co.)	34 58 43 143 157 , 231 187 , 151 222 196 60 60 21 225 22 207 47 33 214 202 210 50 51 189
Rohm & Haas Company Rowe Manufacturing Company R. O. W. Sales Company Russell & Erwin Division (The American Hardware Corp.) 230 Russell, F. C., Company, The Sargent & Company Schieber Mfg. Co. Security Mfg. Co. Security Mfg. Co. Servel, Inc. Servicised Products Corp. Shepard Elevator Company Sisalkraft Co., The Sloane-Blabon Corporation Smith, A. O., Corporation Smith, H. B. Company, The Standard Dry Wall Products, Inc. Stran-Steel Division (Great Lakes Steel Corp.) Structural Clay Products Institute Sunroc Refrigeration Company Taco Heaters, Inc. Timber Structures, Inc. Timber Structures, Inc. Timber Structures, Inc. Timber Structures, Inc. Timber Magazine Trane Company, The Trinity Division (General Portland Cement Co.) Unistrut Products Co. United States Gypsum Co.	34 58 43 143 157 , 231 187 , 151 228 6 , 181 222 207 47 33 214 201 50 51 189 189 189 189 199 199 199 19
Rohm & Haas Company Rowe Manufacturing Company R. O. W. Sales Company Russell & Erwin Division (The American Hardware Corp.) Russell, F. C., Company, The Sargent & Company Schieber Mfg. Co. Security Mfg. Co. Servel, Inc. Servicised Products Corp. Shepard Elevator Company Sisalkraft Co., The Sloane-Blabon Corporation Smith, A. O., Corporation Smith, H. B. Company, The Standard Dry Wall Products, Inc. Structural Clay Products Institute Sunroc Refrigeration Company Taco Heaters, Inc. Timber Structures, Inc. Time Magazine Trane Company, The Trinity Division (General Portland Cement Co.) United States Gypsum Co. United States Gypsum Co. United States Plywood Corporation 33	34 58 43 143 157 187 187 187 187 187 187 187 187 187 18
Rohm & Haas Company Rowe Manufacturing Company R. O. W. Sales Company Russell & Erwin Division (The American Hardware Corp.) 230 Russell, F. C., Company, The Sargent & Company Schieber Mfg. Co. Security Mfg. Co. Security Mfg. Co. Servel, Inc. Servicised Products Corp. Shepard Elevator Company Sisalkraft Co., The Sloane-Blabon Corporation Smith, A. O., Corporation Smith, H. B. Company, The Standard Dry Wall Products, Inc. Stran-Steel Division (Great Lakes Steel Corp.) Structural Clay Products Institute Sunroe Refrigeration Company Taco Heaters, Inc. Timber Structures, Inc. Unistrut Products Co. United States Plywood Corporation (Deco Sales Division) United States Plywood Corporation United States Radiator Corporation United States Radiator Corporation	34 43 143 157 . 231 1 187 7 , 151 212 196 60 21 225 22 207 7 47 33 214 202 255 11 232 35 , 203 49 9 7
Rohm & Haas Company Rowe Manufacturing Company R. O. W. Sales Company Russell & Erwin Division (The American Hardware Corp.) 230 Russell, F. C., Company, The Sargent & Company Schieber Mfg. Co. Security Mfg. Co. Security Mfg. Co. Servel, Inc. Servicised Products Corp. Shepard Elevator Company Sisalkraft Co., The Sloane-Blabon Corporation Smith, A. O., Corporation Smith, H. B. Company, The Standard Dry Wall Products, Inc. Stran-Steel Division (Great Lakes Steel Corp.) Structural Clay Products Institute Sunroc Refrigeration Company Taco Heaters, Inc. Timber Structures, Inc. Timber Structures, Inc. Timber Structures, Inc. Time Magazine Trane Company, The Trinity Division (General Portland Cement Co.) Unistrut Products Co. United States Gypsum Co. United States Plywood Corporation (Deco Sales Division). United States Radiator Corporation Universal-Rundle Corporation	344 431 1437 157 187 187 151 228 196 60 201 225 22 207 47 33 214 202 210 50 51 189 161 225 54 49 49 192
Rohm & Haas Company Rowe Manufacturing Company R. O. W. Sales Company Russell & Erwin Division (The American Hardware Corp.) Russell, F. C., Company, The Sargent & Company Schieber Mfg. Co. Security Mfg. Co. Servel, Inc. Servicised Products Corp. Shepard Elevator Company Sisalkraft Co., The Sloane-Blabon Corporation Smith, A. O., Corporation Smith, H. B. Company, The Standard Dry Wall Products, Inc. Structural Clay Products Institute Sunroc Refrigeration Company Taco Heaters, Inc. Timber Structures, Inc. Time Magazine Trane Company, The Trinity Division (General Portland Gement Co.) United States Gypsum Co. United States Plywood Corporation (Deco Sales Division) United States Radiator Corporation Universal-Rundle Corporation Walworth Company	34 4 4 4 5 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
Rohm & Haas Company Rowe Manufacturing Company R. O. W. Sales Company Russell & Erwin Division (The American Hardware Corp.) 230 Russell, F. C., Company, The Sargent & Company Schieber Mfg. Co. Security Mfg. Co. Security Mfg. Co. Servel, Inc. Servicised Products Corp. Shepard Elevator Company Sisalkraft Co., The Sloane-Blabon Corporation Smith, A. O., Corporation Smith, H. B. Company, The Standard Dry Wall Products, Inc. Stran-Steel Division (Great Lakes Steel Corp.) Structural Clay Products Institute Sunroc Refrigeration Company Taco Heaters, Inc. Timber Structures, Inc. Timber Structures, Inc. Timber Structures, Inc. Timber Structures, Inc. Timity Division (General Portland Cement Co.) Unistrut Products Co. United States Gypsum Co. United States Plywood Corporation United States Radiator Corporation United States Radiator Corporation Universal-Rundle Corporation Walworth Company Wasco Flashing Company Waylite Co.	34 43 143 157 187 76 6 18 18 18 18 18 18 18 18 18 18 18 18 18
Rohm & Haas Company Rowe Manufacturing Company R. O. W. Sales Company Russell & Erwin Division (The American Hardware Corp.) Russell, F. C., Company, The Sargent & Company Schieber Mfg. Co. Security Mfg. Co. Servel, Inc. Servicised Products Corp. Shepard Elevator Company Sisalkraft Co., The Sloane-Blabon Corporation Smith, A. O., Corporation Smith, H. B. Company, The Standard Dry Wall Products, Inc. Stran-Steel Division (Great Lakes Steel Corp.) Structural Clay Products Institute Sunroc Refrigeration Company Taco Heaters, Inc. Timber Structures, Inc. Time Magazine Trane Company, The Trane Company, The Trinity Division (General Portland Gement Co.) United States Gypsum Co. United States Plywood Corporation (Deco Sales Division) United States Radiator Corporation Universal-Rundle Corporation Walworth Company Wasco Flashing Company Wasco Flashing Company Waylite Co. Western Pine Association	34 43 1137 1187 76 1187 76 1187 76 1187 76 1187 76 1187 76 1187 1187
Rohm & Haas Company Rowe Manufacturing Company R. O. W. Sales Company Russell & Erwin Division (The American Hardware Corp.) Russell, F. C., Company, The Sargent & Company Schieber Mfg. Co. Security Mfg. Co. Security Mfg. Co. Servel, Inc. Servicised Products Corp. Shepard Elevator Company Sisalkraft Co., The Sloane-Blabon Corporation Smith, A. O., Corporation Smith, H. B. Company, The Standard Dry Wall Products, Inc. Stran-Steel Division (Great Lakes Steel Corp.) Structural Clay Products Institute Sunroc Refrigeration Company Taco Heaters, Inc. Timber Structures, Inc. Timber Structures, Inc. Trinity Division (General Portland Cement Co.) United States Gypsum Co. United States Plywood Corporation United States Radiator Corporation Universal-Rundle Corporation Universal-Rundle Corporation Walworth Company Wasco Flashing Company Waylite Co. Weirton Steel Co. Western Pine Association Westinghouse Electric Corporation . 29, 54, 66 Western Pine Association Westinghouse Electric Corporation . 29, 54, 66	34 43 143 157 187 76 6 18 18 18 18 18 18 18 18 18 18 18 18 18
Rohm & Haas Company Rowe Manufacturing Company R. O. W. Sales Company Russell & Erwin Division (The American Hardware Corp.) Russell, F. C., Company, The Sargent & Company Schieber Mfg. Co. Security Mfg. Co. Servel, Inc. Servicised Products Corp. Shepard Elevator Company Sisalkraft Co., The Sloane-Blabon Corporation Smith, A. O., Corporation Smith, H. B. Company, The Standard Dry Wall Products, Inc. Stran-Steel Division (Great Lakes Steel Corp.) Structural Clay Products Institute Sunroc Refrigeration Company Taco Heaters, Inc. Timber Structures, Inc. Time Magazine Trane Company, The Trane Company, The Trinity Division (General Portland Gement Co.) United States Gypsum Co. United States Plywood Corporation (Deco Sales Division) United States Radiator Corporation Universal-Rundle Corporation Walworth Company Wasco Flashing Company Wasco Flashing Company Waylite Co. Western Pine Association	34 43 143 157 187 76 6 18 18 18 18 18 18 18 18 18 18 18 18 18

Russwin "Ten Strike" Cylinder Locks



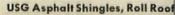


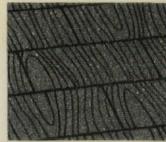
Russell & Erwin Division, The American Hardware Corp., New Britain, Conn.



... Manishtusu reigned as King of Kish. And an image of the king was carved, with eyes fashioned from white limestone. * Time passed, and so did Manishtusu. And so did Kish, and many other kingdoms where the Tigris and Euphrates rivers flow. * Then came men who dug up the image. And the limestone eyes were still in place-held securely by the asphalt a sculptor had used more than five thousand years before! * The ancients knew many uses for asphalt, but none more important than that to which so much of it is put today...Today, when USG asphalt roofing and other products give economical, long-lasting protection to millions of homes and other buildings, large and small.

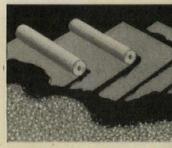
From U.S.G: Asphalt products for homes; for farm, commercial, industrial buildings.





USG* Thick-Butt Shingles (illustrate just one of a complete line of USG asp strip shingles and roll roofing. Designed meet every architectural need, USG phalt shingles come in many designs, in colors that range from bright hues unobtrusive shades suitable for virtu all styles of residential architecture.

USG Asphalt Built-Up Roofs



Logical next step after you've specifie USG gypsum roof deck: specify a U Asphalt Built-Up Roof, and enjoy the vantages of top quality and adaptabl to all types of specifications. Whate methods you prefer, U.S.G. offers materials to carry them out—to the let

From Basement to Roof-Asphalt Protection from U.S.G.!



SUPER-TITE Damp-proofing Coating ma all masonry surfaces more water-resiste whether above or below grade. Also complete line of SUPER-TITE asphalt r coatings and plast? cements; USG phalt-coated sheathing and felts.

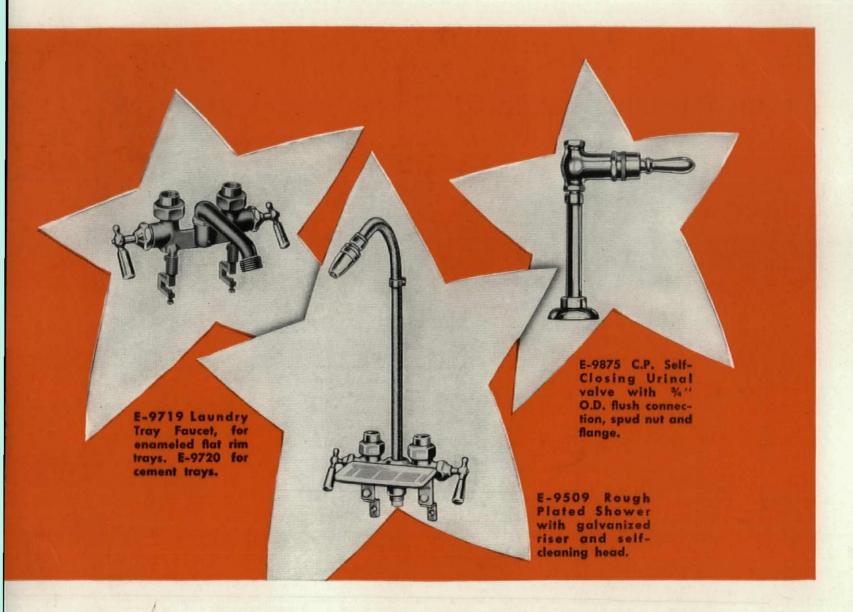
For the long-lasting protection of asphal whether it's making a roof weather-tigh a basement water-resistant—specify US For further information, call in your U.S. representative, or see Sweet's Catal

*T. M. Reg. U.S. Pat.



United States Gypsu

Chicago, Illinois



3 NEW STARS IN THE ELJER BRASS LINE

Eljer's extensive line of brass fittings keeps growing and growing... and here are the three newest stars in the line... ready to add greater convenience and efficiency to new building or remodeling jobs at low cost.

★ An extra-convenience item for the basement, a sturdy, rough-plated shower with soap tray and self-cleaning head. ★ A handy combination laundry tray faucet complete with clamps to attach to flat rim or cement trays. ★ A self-closing urinal valve with oscillating handle that

offers many advantages over four-arm or squeezetype handles.

These three fittings are part of Eljer's topquality line of brass—scores of others are available to give trouble-free service

in every installation. And there are still more to come from Eljer... watch for them!

WRITE TODAY to Eljer Co., Ford City, Pa., for your free copy of Eljer's new brass goods catalog.



It pays you, it pays us-because we specialize in Plumbing Fixtures and Brass



5



FOR SERVICE STATIONS

Double Radius Tracks

An extra offset at the header causes the door to break away fast, preventing any contact with the front wall which might mar the outside door surface, allowing easier operation and giving adequate clearance for lock and lift handles. This type of installation provides ample space for cars on hydraulic lifts. Double torsion springs are an added safety factor.



COPYRIGHT, 1950, OVERHEAD DOOR CORPORA

in the production of many types of qual doors, each destined for a specific market. For service stations, we deside doors to blend with the style of architecture, engineer them to save wear a tear and to give maximum clearance inside the building, and only then produced and install them expertly for trouble-free operation. For residential, commerce or industrial installations, depend upon The "OVERHEAD DOOR" with the Miracle Wedge to have quality features essential to easy operation and long limited.

Any "OVERHEAD DOOR" may be manually or electrically operated.

TRACKS AND HARDWARE of Salt Spray Steel

Nation-Wide Sales - Installation - Service

OVERHEAD DOOR CORPORATION . Hartford City, Indiana, U.S.

- MANUFACTURING DIVISIONS -

GLENDALE, CALIFORNIA OKLAHOMA CITY, OKLAHOMA DETROIT, MICHIGAN PORTLAND, OREGON HILLSIDE, NEW JERSEY
LEWISTOWN, PENNSYLVANIA

CORTLAND, NEW Y